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ORIGINAL ARTICLES.

RAILWAY SPINE.¹

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WHEN Erichsen, in 1866, published his classical work "On Railway and other Injuries of the Nervous System," a new field fertile alike to medicine and law, was thrown open to assiduous cultivation of claims for damages. The nervous pathology of that day was crude, highly speculative, and everything went. Spinal concussion, spinal weakness, spinal congestion, spinal inflammation and other awe-inspiring terms were employed in the characterization of a serious and intractable malady that seemed to be the peculiar property of railway wrecks.

Unquestionably Erichsen's description of this class of cases is full and complete and his later essay on "Spinal Concussion" contains as vivid and accurate a description of the subjective symptoms of the results of injuries as any work of to-day. His notions, however, of the changes in the nervous system which gave rise to the symptoms were wholly speculative, founded upon the theories then prevalent, and were without substantial foundation.

This work made a profound impression upon the minds of both professions, and even to-day is the guiding star in many a case coming before the courts for adjudication. If medicine were an exact science, if human nature were reliable, if practitioners, both of law and medicine, were but single minded in assisting the court rather than their clients, these cases of so-called railway spine would reach a more satisfactory conclusion.

Members of the medical profession know rather more at the present day of the nature of these nervous results of trauma, and place little credence upon the earlier pathology. We know, too, how severe the injury must be, how great the shock required, to do distinct harm to the spinal cord itself—a very different thing, by the way, from the spine.

The spinal column—and when we speak of the spine, that is what we mean—is a very strong and irrefrangible case for a delicate and susceptible bundle of nervous tissue, the spinal cord. It is, however, supple, and will withstand much torsion and severe concussion without injury to its vital contents. Unless, indeed, the spinal vertebrae are dislocated or fractured, very rarely is the cord damaged in any way. When sufficiently severe violence occurs, the results of such

damage are intense and immediate. This, however, is not the condition ever found in the so-called "Railway Spine," and I only call attention to it for its negative value. Do not forget, then, that more than concussion of the spine, more than sprain of its muscles and ligaments, more than general bruises, more than shock or fear must be present to cause any serious disturbance of the spinal cord itself. And yet upon "permanent and incurable injury to the spinal cord" hang the majority of damage suits as ordinarily conducted even to-day.

I will admit that in a very small number of cases severe concussion may cause hemorrhages into the cord, even when the spinal column itself is uninjured. But this is rare, indeed, and need scarcely be taken into consideration in most cases.

What then is "railway spine," since it evidently is rarely, at least, an injury of the spinal cord?

Many terms have been employed to express the clinical condition which is so frequently found as the result of accident due to misdirection of the tremendous energies of modern life. Traumatic neurosis, the more recent name given to the symptom complex, is perhaps most comprehensive, and yet this is but another name.

By neurosis we understand a functional disturbance of the nervous system, a perversion rather than an abolition of function, while the term traumatic conveniently identifies the condition with some accident rather than disease. The neurosis, however, differs in no way from that due to other causes.

It is perhaps needless to detail symptoms, but briefly I will give an illustrative case.

An active able-bodied man of thirty-six years, of Irish descent, of ordinary intelligence, of strong build, was unloading a car which stood on a switch. A shifting engine struck the car, pushed it over an embankment of eight or ten feet in height and the patient was thrown forcibly, striking his right side against the car. The contents of the car fell upon him. He was greatly frightened and his nervous system severely shocked. He was not unconscious and was shortly taken to his home one or two miles distant.

At the first he was bruised severely, nauseated and vomited more or less for three weeks. He was sleepless, dreaming constantly of the wreck. Even in the day-time the memory of his strenuous experience fixed itself upon his mind. He had more or less headache, was constantly in pain for about three months. His whole right side became weak and the right arm and right leg were practically paralyzed, and he became bed-

¹ Read at the Annual Meeting of the Medical Society of the State of New York, at Albany, N. Y., February 1, 1905.

ridden. He had no fever, although his pulse was rapid and excitable.

There was marked loss of sensibility over the right foreleg and forearm. The spine was very painful to pressure and in turning himself, his muscles stiffened as though to avoid pain. The general functions were normal, except that he had lost all interest in sexual matters and had become impotent. The extremities, especially the right, were cold, moist and purplish in color. The paralyzed leg, however, when suddenly dropped, sank slowly down, not helplessly as a paralyzed leg should.

Such was the condition some six months after the accident, and his physicians believed he had a spinal malady and was permanently injured.

This is the common history of many of these cases. In some the symptomatology is even more extensive, the emotional condition more prominent, the nervous disturbances more grotesque, a manifestation of the disorder wholly inconsistent with any known organic malady. It is, however, this very dramatic combination of symptoms that impresses physician, lawyer and jury alike.

Organic diseases of the nervous system produce certain definite indications, certain changes in the normal reactions of health by which we may more or less easily spell out the nature, location and future of such diseases. Each strand of nerve fiber, each segment of the spinal cord, nearly every convolution of the brain itself can thus be patiently and successfully investigated.

Let us apply this method in the examination of our patient, and we assemble a number of definite objective facts, which are quite independent of the subjective symptoms of which he complains. Now we try to put our puzzle together, we try to fit these facts to the supposed spinal injury and cannot succeed. The paralysis is not absolute, the suspended leg falls slowly, not as a "dead" leg does when dropped. The loss of sensibility is not in accordance with anatomical relations; the reflexes are exaggerated when they ought to be abolished, if certain spinal areas are affected, or *vice versa*. In fact, the manifestation of disease is out of all proportion to the injuries received. It is a disturbance of the mind, not of the body. It is indeed a psychosis.

It is the gross inconsistency in symptomatology, the bizarre character of the clinical picture; the changing of the symptoms from day to day; the constant shifting of the areas painful to pressure that render a diagnosis of permanent lesion of the spinal cord absurd.

This neurosis, then, is a functional disturbance of the nervous system, a perversion of the mind and very largely dependent upon the dominating influence of an imperative concept.

It is, however, none the less a disorder be-

cause it is functional rather than organic in character. It is not an imaginary ailment, although a highly wrought imagination has much to do with the disturbance. It is not conscious simulation or malingering, although expectant attention, with all its morbid relations, greatly exaggerates the symptoms presented. It exists in non-litigated cases and at times persists after a settlement is reached in medicolegal cases. The initial disturbance is due even more to the shock, perturbation or fear, than to the bruises and sprains to which the body may be subjected.

As illustrative of this condition let me give briefly as possible a recent case under observation: Mrs. J., in a minor railway accident, September, 1903, was thrown forward on her hands and knees, something heavy—a seat cushion—striking her back in the lumbar region. She had never been in a railroad accident before and was greatly frightened. There was no apparent injury aside from the general shock. Within six weeks, however, there developed a chain of symptoms exceedingly interesting and complex. She "suffered terribly from backache, could scarcely walk and required constant assistance from her nurse." She was weak on the right side. The right arm displayed a coarse rhythmic, stereotyped tremor or spasm the rate of which was about three per second. This spasmodic movement was intensified by attention or excitement, especially when told to keep still. Pressure along the spine developed exceedingly tender spots, inconstant or shifting, however, upon examination, very characteristic of emotional conditions. There was a light anesthesia present generally over the right side, while there was concentric contraction of the color fields in both eyes, more marked on the right. She complained of inability to stand, the right leg being heavy and dragging in the effort to walk. Examination, however, showed very strikingly the condition known as paradoxical muscular action: *i.e.*, in any effort to move the leg, the opposing set of muscles became rigid and prevented the intended movement—paralysis through rigidity. Further, when the paralyzed leg was suddenly dropped, it slowly sank to the bed, not collapsing as in true paralysis. Other symptoms, subjective and objective, corroborated the diagnosis of a neurosis which was clearly an emotional or hysterical display dependent upon extravagant ideation, or an imperative concept, a psychical not a physical upset. With settlement of the damage suit, recovery was rapid and within a year was practically complete.

The imperative idea grows by what it feeds on: emotion, fear, sympathy, animosity toward the corporation, a host of emotional causes. The field of consciousness narrows, attention is more and more fixed upon the sufferings and misfortune, the great outside world is blotted out. Thus the bruises and local pains, the sense of reaction to the shock, result in a weakness more

or less localized, which gradually develops into a purely mental palsy, quite as definite, by the by, as its organic prototype. Organic disease, however, is usually permanent and incurable, functional disturbance rarely so and recovery may be confidently expected. It is similar to the hypnotic state, to which condition it is indeed very closely related. As Charcot, the great French neurologist, well said: "It is a gradual mental elaboration of an imperative or dominant idea developed in susceptible individuals through local shock, a species of autosuggestion, requiring a definite interval of time for its creation."

In a case reported by the late Dr. Andrews, of the Buffalo State Hospital, this is very well illustrated. The patient came under my own observation and during the last ten or fifteen years has so elaborated this phase of his subconscious mentality that the establishment of a serious train of symptoms is easy as "rolling off a log." Indeed, he goes about clothed in a "ready-made" suit of damages. To my own knowledge he has been the victim of "permanent spinal injuries" upon three occasions—I had almost said opportunities—only to recover when his suit was settled or thrown out of court. In justice to him I must add that he is not a malingerer, but rather the unhappy victim of an imperative idea, working upon an easily wrought imagination with the cooperation of too eager attorneys.

Similar conditions we meet with, irrespective of traumatic cases, and we call such cases neurasthenia or hysteria, according to their predominant symptoms. Why not then apply these same terms to accident cases presenting similar characteristics?

In the neurasthenic type we find general weakness, lassitude, indifference or even depression of the mind, a general breaking down of the physical, mental and moral vigor.

In the hysterical type, such as was present in Mrs. J.'s case, there is marked perversion of sensory, motor and ideational activity, resulting in a display of symptoms which no man can explain, no expert satisfactorily account for. The loss of sensibility is mental rather than physical, *i.e.*, it corresponds to no anatomical arrangement of the nervous system. The motor weakness is not complete and often varies from day to day, or shows other peculiarities of too technical a nature to be detailed here. Curiously, very rarely will we meet with these conditions among those having well disciplined or critical minds. The credulous, simple-minded, those of somewhat limited intellect and experience, furnish the most fertile soil in which hysterical symptoms flourish. Susceptible to a high degree, the power of suggestion has an enormous influence in directing the attention and fixing the morbid phenomena. The atmosphere of their surroundings is pernicious, their forced inactivity pernicious, the investigation of their troubles, both by attorney and physician, is per-

nicious. The dread of a strange malady, the anticipation of the prospective trial, the fear of permanent injury, the worry due to wage loss, all tend to fasten the incubus of disease upon the attention, and add to the physical expression of the disordered mind. For in the last analysis it is a delusion—a delusion with, however a real physical expression in the shape of pain, anesthesia and palsy.

It is, nevertheless, a true disorder, caused by a very real injury, a shock to the mental synthesis, as definite a disability for the time being, as though a leg or an arm had been cut off, and one for which proper compensation can justly be claimed.

Yet, what a travesty upon justice in the award of damages do we often meet with. The dramatic situation of the plaintiff, his apparent absolute loss of power, all appeal to a sympathetic jury, and many times the amount is awarded that would be considered fair remuneration for an amputated leg or arm. Surely jurisprudence must remedy this, for there seems no limit to the amount a jury will give to such a claimant. Would it not be possible to establish an "unproven verdict," the final award at least being contingent upon the issue of the case? Or, again, might it not be well for corporations to forestall animosity, a very pregnant emotion in these cases, by securing proper care and treatment from the start?

And in what does proper treatment consist? In just one principle, isolation: absolute removal from the pernicious atmosphere of his surroundings to the well-regulated discipline and care of a hospital, where all influences make toward recovery. This alone will go far to shorten the attack, to hasten the cure. If in addition any satisfactory settlement of damages, even though not in accord with the exaggerated notions of the patient, friends and attorney, the chances of recovery will be excellent, and the termination more speedy.

"Railway Spine" is a convenient and picturesque term which has hypnotized juries, even as the shock has hypnotized the plaintiff. It is dramatic, but not accurate. The damage done is not to the spine or spinal cord, but to the mind. It is a psychical disorder not a physical one, although it has a physical expression in its symptomatology.

Prophylactic Injections of Diphtheria Antitoxin.

—The curative action of diphtheria antitoxin is undisputed, but considerable doubt still exists, if an injection will prevent infection in those not yet infected. F. WISENZA (*Munch. med. Woch.*, March 21, 1905) concludes that the serum really exerts a prophylactic action but that the protection is not an absolute one and hardly lasts longer than three or four weeks. An infection may occur even during this period, but the course of the disease is usually very mild. The customary dose for small children is 200 units, but the minimality would probably be of longer duration, if twice the amount were given.

TREATMENT OF NON-MALIGNANT DISEASES BY THE ROENTGEN RAY.¹

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DURING the past four years a great many diseases have been treated by the Roentgen rays, and, since we know what can be accomplished by this powerful therapeutic agent, the time has come when we should draw a line between those diseases which should and those which should not be treated by this method.

I can safely state that any one who has made a careful study of radiotherapy realizes the value of the rays in certain diseases. Whereas a large number of obstinate skin lesions can be cured by this method when the rays are properly applied, it is a fallacy to treat many of the trivial affections which can be cured by this method. It should be our object to treat every patient with the therapeutic agent that is the most effective and produces a cure in the shortest time. At the present time, there seems to be a diversity of opinion among the various dermatologists in regard to the value of the Roentgen rays in the treatment of some of the most obstinate skin lesions, which are best treated by this method. One will state that he has been successful in every case of acne so treated, while another will say that he believes acne should not be treated by the rays, but that radiotherapy is almost a specific for eczema and psoriasis. When these different reports are carefully analyzed, and the technic of each studied, it is plain why such conclusions are drawn. It is a well-known fact that, in order to do successful radiotherapy, it is just as essential for the operator to know how to apply the rays, as it is for him to make a differential diagnosis.

The Roentgen rays must be prescribed and given in a therapeutic dose for each disease, if results are expected. The dosage depends upon the quality and quantity absorbed, and one of these is as important as the other in giving a therapeutic dose, and to do the most successful work, they must be varied to suit each individual case.

It is a well-known fact that tissues are not always affected to the same extent by the same dose, any more than the same dose of a drug will always produce the same physiological action. But by studying the patient and disease, the same as before prescribing drugs, almost as uniform results in producing reactions can be obtained.

Idiosyncrasy is not a frequent cause of burns. A diseased area reacts more readily than normal tissue just the same as a patient whose vitality is low will burn more quickly than a healthy subject. A patient with a weak heart does not stand chloroform as well as one whose organs are normal, and when the patient does not stand the drug well, we realize that this fact is due to a known cause. The same is true of radiotherapy.

Now, why does the ray effect a cure in certain

skin lesions where the older remedies fail? Possibly because the local therapeutic effect is deeper than that of the stimulating drugs.

All living tissues undergo a change when under the influence of the Roentgen rays. If the dose is very small, stimulation takes place, thus increasing nutrition; but larger doses will produce atrophy and degeneration. This depends upon the vitality of the tissues. Thus the nails, hair, papillae, and glandular structures may be injuriously influenced, while the surrounding structures will be stimulated. It has been noted by various observers that the X-ray inflammation in the corium is followed by migrations of leucocytes.

If any operator has observed how much easier it is to burn carcinomatous tissue, after the larger vessels supplying the malignant growth have been tied, he will readily see that the vitality of the tissues determines whether a given dose of X-ray increases or decreases the nutrition. It is not the X-ray which cures the patient, but it is the judgment of the operator in applying the rays. While skin diseases suitable to the X-ray are far more easily affected by the rays than deeper seated lesions, it is just as essential in order to secure the largest percentage of cures, to have a technic by which the rays are absorbed.

Acne.—This affection has a very important place in Roentgen ray therapy, because it is often a very obstinate disease to treat by the older methods. In comparing this method to curettage and incision, the rays give uniformly better results, and in these chronic cases pitting and scarring is usually avoided. This alone is sufficient to justify treating all cases of the pustular type by the X-ray. On the other hand, it would not be wise to treat every case of acne of the milder type by the X-ray. In the treatment of acne, it is likely that the rays cure by producing a leucocytosis, which is brought about by a dose not large enough to cause degeneration.

The degree to which the reaction must be carried to effect a cure in acne varies with the severity of the case. From my own experience, as well as that of others, it seems safe to state that 75 per cent. of all cases of acne can be cured without producing any noticeable reaction, and in the other 25 per cent. it will be necessary to produce a reaction which will cause peeling equal to a severe sunburn. If, in the 75 per cent. of the cases, the acne was cured and disappeared without producing any noticeable reaction, I believe we would have 25 per cent. of recurrences. So far, I have not had a recurrence in a case where reaction was followed by a peeling of the skin.

The following case, referred by Dr. Voight, was that of a patient who had acne for eight years, the papular and pustular form, covering the face and back. The patient had consulted and had been treated by two dermatologists in Philadelphia, one in New York and several in Pittsburg. He had received some benefit, but this was only temporary. The amount of scarring

¹ Read before the College of Physicians, in Philadelphia, Feb. 1, 1905.

and pitting was decidedly noticeable. A treatment three times a week was given for three months, when the disease had entirely disappeared. It is now eighteen months since the last treatment, and there has been no recurrence. The rays caused a disappearance of a great deal of the scarring. It is a well-known fact that the X-ray causes a disappearance of scars in many cases.

The treatment of acne requires considerable experience in studying the case before deciding upon a therapeutic dose. Again, certain tubes will produce a certain amount of tanning while others will produce scarcely any.

Lupus.—In the treatment of lupus, no other agent can be compared with the X-ray and Finsen light. The question as to which of these gives the best results has occasioned considerable discussion. In Europe the Finsen light seems to have the preference, while in this country the X-ray is used the most. The method of using each is most likely accountable for the preference in the various places. In Europe the Finsen apparatus is more powerful than that which is usually employed in this country. In order to secure penetration, it is necessary to use a large arc which consumes considerable current.

The X-ray produces results much more quickly than the Finsen light, but probably in some cases, where the area is small, it is inadvisable to use the Finsen method. I usually begin with the X-ray, continue until a slight dermatitis is produced and then use the Finsen light. By so doing, I believe, time is saved and, as a rule, the results are better. The cases of lupus vulgaris, which apparently cannot be cured by this method, are usually either not treated for a sufficient length of time, or the disease is very extensive and involves the deeper tissues and the patient is in very poor physical condition. It is not wise to discontinue treatment after all visible signs of the disease have disappeared. After the disease is apparently cured, I always advise the patient to take a few additional X-ray treatments and produce a slight reddening again. Where this practice has been adopted I have had no recurrences up to the present time.

I believe in some of the cases which have been treated in the past for lupus there was a mistaken diagnosis. While visiting different laboratories I have seen cases which were undoubtedly not lupus but syphilitic ulcers. This spoils our statistics, because when adjunct treatments are given, we do not know which has cured our patients.

I had two cases of this kind that did not heal until they were put on antisyphilitic treatment. Each had undergone a long treatment of potassium iodide before coming for the X-ray. Now, were these two cases of syphilitic ulcers and did the X-ray stimulate the ulcers sufficiently to heal? My diagnosis was syphilitic ulcers.

I report the following case to show why some physicians are doubtful about the utility of the X-ray in the treatment of lupus vulgaris:

Case.—Mrs. B., aged thirty years, had been treated at intervals for nine years for lupus vulgaris of the nose. She had been to ten or twelve physicians during this time, and they all made a diagnosis of lupus. One was a prominent dermatologist and a professor in one of the large eastern schools. He treated the patient a year and three months, the disease gradually becoming worse, and when the patient came to my office, the point of the nose was entirely destroyed. While under the dermatologist's care, she requested to be treated by the X-ray, and she was accordingly referred to the X-ray laboratory, but the dermatologist must have been extremely afraid of an overdose of the X-ray, as he instructed the radiotherapist under no circumstances to give an exposure of more than three minutes. The patient was given eight treatments, and the radiotherapist refused to give any more treatments unless he was allowed to give his usual exposure, which was fifteen minutes. This was three years ago, but it was counted as one of the X-ray failures to show results. This summer, it required three months to effect a cure.

In the treatment of glandular diseases, viz., tuberculosis, Hodgkin's disease and goiter, much has been accomplished by the use of the X-ray. I will not mention the results which have been had in carcinoma of the glands any further than to state that the X-ray will destroy the particles which cannot be reached by the knife. An excellent illustration of this was mentioned by Dr. Hulst, when he stated that the removal of the mass might be compared to a man shoveling snow off the street, but after he had done his work as thoroughly as possible, there would be left in the cracks a small amount of snow. But he stated the snow could be removed from the cracks by salt. Thus, the surgeon might be compared to the snow shoveler and the radiotherapist to the man who sprinkled the salt. I believe this comparison will apply to tuberculous glands as well, because if one gland is involved and removed, very likely the disease will involve adjacent glands.

It has been advocated not to operate on tuberculous glands except when they contain pus and then just make an incision for drainage. Here, the same as in the treatment of other diseases, it is well in many cases to consult a surgeon before the treatment is begun. The cosmetic results are certainly better when the cases are treated by the rays and the danger of secondary involvement is lessened.

Sufficient evidence has been shown in the treatment of goiter to advocate the use of the Roentgen ray. A certain few cases have responded readily when all other forms of treatment have been disappointing. In some of the cases that I have seen, the growth would only be reduced about one-half, but the symptoms had disappeared. This alone would be sufficient evidence to justify the patient in taking the treatment.

I have treated six cases, three of which were apparently cured, but in which slight enlargement remained.

A few cases of Hodgkin's disease have been reported as cured by the X-ray and, since this disease is so hopeless under the usual treatment, it seems advisable to submit these cases to treatment for the purpose of prolonging the patient's life and the possibility of effecting a cure. A remarkable fact is most cases has been shown after a few treatments in the improvement of the general condition of the patient.

CONCLUSIONS.

1. That it is necessary to distinguish between the non-malignant diseases which should, and those which should not be treated by the X-ray.
2. That while the continual cry of technic may become tiresome to some who think the subject can be mastered in a few days or a couple of months, the method of application of the rays and the judgment of the operator accounts largely for successful or unsuccessful work.
3. That it is just as essential to administer a therapeutic dose when applying the Roentgen rays as it is when prescribing powerful drugs.
4. That idiosyncrasy is not a frequent cause of excessive dermatitis.
5. That a dosage which causes stimulation of healthy tissues will usually produce a slight reaction in diseased tissues.
6. That, at all times, it should be remembered that it is not so much the X-ray that cures as the judgment with which it is employed.
7. That the X-ray is one of the best therapeutic agents known for the treatment of acne and many other skin diseases, but it is unnecessary in many instances to treat the trivial and less obstinate cases by this method.
8. That the X-ray, supplemented by Finsen light, is the most efficient therapeutic agent for the treatment of lupus.
9. That the X-ray is the most efficient agent for the treatment of certain tuberculous glands, Hodgkin's disease and selected cases of goiter.

TO WHAT EXTENT ARE CYCLOPLEGICS NECESSARY IN DETERMINING THE REFRACTION OF THE EYE AND IN THE PRESCRIBING OF LENSES.¹

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I SUPPOSE that to many physicians who confine themselves to the practice of ophthalmology, the discussion of the subject I now propose will seem unnecessary. I have myself taken this view, but I find that, notwithstanding all that has been said and written, there is still a great diversity of opinion among men who are qualified by edu-

cation and experience concerning the advisability of employing cycloplegics in determining the refraction of the eye and in prescribing lenses for the correction thereof.

In this, as in all subjects, there are those who take extreme views. I have heard of one ophthalmologist who thinks it a crime to fit glasses without the use of a cycloplegic; and if the pendulum swings so far in one direction, it is likely to swing to the same extreme in the other. There is, however, a happy middle ground, where, I believe, we should all like to stand, and it is my endeavor to find it.

In considering this subject, we must keep before our minds just what the conditions are that require the use of glasses and what we expect to accomplish with their aid. I would eliminate as far as possible, for this paper, the consideration of anomalies or insufficiencies of external muscles of the eye, and of the use of prisms, and confine myself to the refraction of the eye, including, of course, the ciliary muscle, on which depends, at least so I believe, the determination of the whole subject.

I will consider the eye as an optical organ and as an organ of vision. In considering the eye as an optical organ, we must eliminate the ciliary muscle and regard it as a passive organ, exactly as if it were a photographic camera, with its sensitive plate or retina, receiving light and portraying objects coming within the horopter of the instrument. In the emmetropic organ, the light coming from an object situated at the proper distance, or at infinity, will be focused on the retina, giving a clearly defined inverted image of the object. In this form of camera we could retain an exact focus by moving the whole body back as the object came too near, just as one might move the tripod on which the photographic camera is adjusted.

The hypermetropic camera is too short, and rays of light are focused behind the camera regardless of the distance of the object. In this optical organ it is impossible to get a clear image on the sensitive plate unless some power is given the instrument. This we can do by adding a convex lens to the one already existing in the camera.

The myopic camera is too long, and rays are focused in front of the sensitive plate. We can overcome this by bringing the object nearer the camera. In this camera we can get a distinct focus without adding to the instrument, by simply moving it backward or forward, depending upon the position of the object.

And then there is the last form, the astigmatic camera, in which to get a perfect image a cylindrical lens must be added.

If this were all there was to this subject, if there were no ciliary muscle and it was only necessary in determining or measuring the refraction of the eye to find the lens which would bring the rays of light to a focus on the retina, whether the means used to find this was the ophthalmoscope, the retinoscope or the ophthalmometer, either

¹ Read before the Ninety-ninth Annual Meeting of the Medical Society of the State of New York, Albany, N. Y., January 31, 1905.

singly or conjointly, the work of the ophthalmologist in this particular would be an extremely simple matter, requiring very little time, thought or knowledge.

It is a fact, however, that the eye is not only an optical organ, but it is an organ of vision as well, or perhaps it would be better and more accurate to say that it is a part of the organ of vision, for perception of objects portrayed in the eye takes place in the brain. It is this that gives to the subject its great importance, and necessitates on the part of those who would engage in the work of detecting and correcting errors found in it, a knowledge of something more than optics.

The eye is not a passive organ, nor is vision a passive act. This is clearly demonstrated by the well-known fact that one can gaze into space with the eyelids open so that objects must be portrayed on the retina, and yet not see; in fact, be entirely oblivious of what is going on. How often have we passed a friend on the street, sure that his eyes were looking directly at us, and had him pass by entirely unconscious of our presence? His pupils would have contracted, his ciliary muscles would have taken action under the impulse sent from his brain, the optic nerves would have carried the impression made on his retina to his visual center, and he would have greeted us, had we by a word made him aware of our presence.

We have pictured the eye as an optical organ, but it is impossible to stop at that point. Being an active organ, a part of an active system, we cannot eliminate one part and retain the normal sequence. So I believe that if we paralyze the ciliary muscle when we attempt to correct the defects of the eye with lenses, we are starting from an erroneous base, by placing the eye in an abnormal condition.

Symptoms.—There is no way in which we can determine the nature of the condition which we have to deal with from the character of the symptoms presented.

I have tried time and time again to formulate some rule, but I do not believe it can be done. Headache we generally consider to result from hypermetropia and astigmatism rather than from myopia; and while this is true probably in the majority of cases, there are many exceptions. I have seen many cases of severe headache result from slight degrees of myopia. On the other hand, hypermetropia and astigmatism exist often without producing this symptom.

There is no symptom produced in any part of the body by any disease in the whole category of diseases, which cannot be duplicated or reproduced in highly nervous people when the eyes are defective. The correlation between the eyes and other organs of the body is very intimate, and I have seen symptoms produced by affections of other organs intensified and aggravated by irregularities in the optical condition of the eye. And the reverse is equally true, that symptoms

due to defective conditions of the eye may be aggravated and intensified by affections of other organs remote from the eye and apparently having no direct connection with it.

It is not, therefore, a positive indication that lenses are not properly fitted because the symptoms for which they are prescribed and which seem to be referable to the eyes, do not cease when the lenses are worn.

It is natural, perhaps, for one to be so taken up with his specialty as to forget the rest of the body, but we ought to guard against being too exclusive or we shall do injustice to our patients. It is not uncommon to have patients insist that their glasses are at fault because their headaches do not cease, and to find that they need quinine, iodide of potassium or some other medication.

There is a growing desire on the part of imperfectly educated people to ask exclusive privileges at the hands of the legislature, because, in the opinion of these people, an education such as is required of physicians seems not to be necessary. Unfortunately the medical profession has been so taken up with its private affairs that it has allowed the arguments of these people to go unrefuted, and such legislation has been granted. This is so to a very limited extent in New York, but in many States most pernicious laws have been enacted giving privileges to incompetent people which never ought to have been given to any but educated and properly qualified physicians. The results of such laws cannot fail to be detrimental to the best interests of the community, and I feel sure that the enactment of them is entirely the fault of our profession.

Purposes for which Cycloplegics are used.—I think it will be admitted that cycloplegics are not necessary to allow us to make an ophthalmoscopic examination. If we desire only to dilate the pupil for this purpose, we can use cocaine. This may have a marked cycloplegic action, as I have more than once observed, but we do not expect this to be the case, nor do we generally find it so.

We use cycloplegics not for the purpose of ophthalmoscopic examination, nor to allow us to estimate the amount of error. We can determine the amount of error, if we have had sufficient practice, accurately enough for all practical purposes. Splitting hairs in determining the amount of error with the ophthalmoscope is not of any particular advantage to either the patient or the observer. I have heard men declare, and they were generally students, that they could estimate the amount of error within a quarter of a diopter, but I have never seen anybody who could do it with certainty, and I doubt if it would be of any particular benefit if it were possible.

The bright light of the ophthalmic mirror, thrown into the eye, at first causes a contraction of the pupil which is followed by a dilatation of the iris and an accompanying relaxation of the ciliary muscle. This, in the majority of cases, is

sufficient to enable us to estimate the amount of error, especially in hypermetropia, with sufficient accuracy for all practical purposes, and if we so desire we will find that this is confirmed by examinations under atropine.

In determining the lens to prescribe in hypermetropia, there is this to consider: Hypermetropia, being the condition which generally prevails, is probably the normal condition of the human eye. It is the natural condition and should therefore be considered the point of departure in most cases; and its deficiency, if you choose to so designate it, is compensated for by the ciliary muscle, or, to use the synonymous term, the accommodation.

If in hypermetropia there are asthenopic symptoms, it is due either to the fact that the hypermetropia is excessive and the accommodation unable to compensate for it, or, the hypermetropia being not excessive, the accommodation is in itself deficient, or the character of one's work such that the ciliary muscle is unable to meet the demands made upon it. In either case mechanical relief is necessary, and this is supplied by placing a convex lens before the eye to supplement the crystalline lens within the eye. The strength of this added lens will depend, all other things being equal, upon the individual. I do not believe there is any rule by which you can determine what the strength of this added lens should be, except the rule of the patient's acceptance.

If you absolutely paralyze the patient's accommodation, making manifest all the latent hypermetropia, and give him a glass representing this fully, you do not improve his condition. As long as the effect of the cycloplegic remains, the lens will be satisfactory and the patient will see well. When the ciliary muscle regains its normal strength, as it will, this lens will cause distress and the patient will refuse to wear it. Suppose you do not entirely correct the error, you may allow the effect of your drug to pass away and find how much he will accept then, and then allow him a certain amount of accommodative power and give him a glass whose strength shall represent the balance. This amount which you think he ought to compensate for will differ from the amount which some other observer might allow him; but whatever the amount is, it is a purely arbitrary ruling as to the strength the muscle should have. I do not believe any such estimate can be made. One might as well estimate the strength of the biceps of a pigmy and that of a giant.

My plan is to correct the amount of manifest error and increase the strength of the lens as circumstances necessitate. To a person with asthenopia, who has never worn glasses, the correction of manifest hypermetropia will give relief and comfort, and as a rule will be all that is required. This relief will last a certain length of time, depending upon the amount of error, the age and occupation of the individual. If the necessary relief is not obtained, or if the patient will

not accept any lens, then I believe a cycloplegic should be resorted to.

In astigmatism, what I have said concerning hypermetropia will apply, with certain modifications. Repeated observations have demonstrated that astigmatism is generally corneal, and, furthermore, that a certain amount of lenticular astigmatism is normal. In December, 1893, I read before the Section in Ophthalmology of the New York Academy of Medicine, a paper on this subject, which was afterward published in the *Archives of Ophthalmology*. In this paper I presented the result of a study of two hundred eyes, in which I demonstrated, to my own satisfaction at least, that corneal astigmatism is the only astigmatism needing correction, in a very large proportion of cases, and that it can be positively measured and determined with the ophthalmometer; that lenticular astigmatism is compensatory and exists with sufficient regularity both in amount and character, to admit of definite rules for making the proper allowance for it. This can be illustrated in this manner: The normal corneal astigmatism is one-half of one diopter, with the rule. This is to say, the refraction of the eye, if determined by the corneal curvature, presents two focal points, the refraction being greater in the vertical than in the horizontal meridian. We find, however, in point of fact, that although the cornea would indicate this, the trial case, even when the eye is fully under the influence of atropine, does not corroborate it. Therefore, there must exist a counteracting influence elsewhere, and this, it is generally conceded, is due to a tilting of the lens, amounting to an astigmatism of one-half of one diopter against the rule, the opposite of the corneal astigmatism. This lenticular astigmatism is fairly constant in amount, while the corneal error varies exceedingly, and this gives us our cue for practice. If the measure of lenticular astigmatism is a definite and constant amount, a patient with astigmatism with the rule should accept the amount of corneal error less the amount of normal lenticular aberration; and when it is against the rule, plus the amount of lenticular astigmatism. When this is not the case, the accommodation has succeeded in overcoming the corneal error to a greater extent.

Inasmuch as it is the manifest error that causes trouble in most cases, representing, as it does, the amount that the accommodation is not able to take care of, by relieving this with the proper lens the asthenopia will be overcome. Later on, as more of the astigmatism becomes manifest, it can be relieved by increasing the strength of the lens.

I believe that, as a rule, in simple hypermetropia and in hypermetropic astigmatism it is only the amount which is uncompensated for, or which is compensated for with difficulty, that causes trouble, and if this is corrected, the trouble will cease.

In simple myopic astigmatism you will generally be able to get the patient to accept the

glass which represents the full amount of the error; whereas in simple hypermetropic astigmatism this may or may not be the case. Whether it is the case or not makes very little difference if you can relieve the asthenopia and correct the defect in vision. If you can do neither, then atropine may be resorted to, although one need not be disappointed if better results are not obtained with its use.

In mixed astigmatism, especially when the error is great, I often use atropine. Even in these cases one is as likely to get good results without atropine as with it. With mixed astigmatism, say of six or more diopters, good vision is exceptional, and asthenopia is not the rule. Very often good vision cannot be obtained, and one is justified in using any reasonable treatment to obtain a result. I have not felt that I obtained any better vision by using atropine in these cases.

In myopia and compound myopic astigmatism we have a different proposition, at least so it seems to me. In hypermetropia and simple astigmatism we have to deal with a condition requiring only mechanical correction; in myopia, whether with or without astigmatism, we are dealing with a diseased condition, and, like all diseased conditions, it requires watching. I believe, and extended experience tends only to confirm that belief, that children of tender years, afflicted with myopia, should have their accommodation paralyzed with atropine at least every six months, the eyes being protected while under the influence of the cycloplegic with colored glasses, until we are as confident as it is possible to be under such conditions, that the tendency of the disease is not to increase.

There are some conditions where atropine can be used with benefit besides those which I have mentioned. In children with intermittent strabismus convergence, atropine will procure good results. In older people who have gone through years of agony from uncorrected eye-strain, irritated perhaps to the verge of desperation, I believe that atropine, by enforcing rest, accomplishes a great deal. The fact is that atropine is a useful medicine and should be used as such. To instil it in eyes indiscriminately, simply to enable us to use retinoscopy, or to enable us to see how strong a glass we can force a patient to accept, when we have at our command the ophthalmoscope and the ophthalmometer, seems to me not only unnecessary but unjust.

I believe that cycloplegics should be used in the refraction room exceptionally. I do not believe that we ought to try to secure emmetropia without the aid of the accommodation, for such a condition would be a misfortune. I believe we should look on the ciliary muscle as a most valuable aid to vision and assist it when necessary, but under no condition should it be ignored.

There is perhaps no part of the body more dependent upon the general condition for the proper performance of its function than the eye. Every

case of refraction coming to us should receive the most careful and discriminating consideration, and the condition of the other organs of the body should be given proper attention.

Certainly the determination of the question whether lenses applied to the eyes is all that is necessary, or whether some other treatment is indicated should never be entrusted to the judgment of a person who is not qualified by a medical education to render such a decision.

NASAL CONDITIONS DEPENDENT UPON THE GENERATIVE ORGANS.

BY JUSTUS SINEXON, M.D.,
OF PHILADELPHIA.

It is difficult to differentiate with a distinct line of demarkation the conditions of the nasal tissue dependent upon the generative organs, whether exercised normally or employed to excess, and the systemic influences produced by the stimulation of the entire vasomotor system which occurs during the performance of the procreative act.

While the study of these intranasal changes, dependent upon such conditions, is of comparatively recent date, obscure historical references and the household phrases of many nations from the earliest ages of antiquity point with vague and obscure references to the interdependence of these organs. The size and shape of the nose, in both ancient and modern times, has always been considered as an indication of the proportionate development of the generative organs, so that formerly the name "Nasuti" was applied to individuals so endowed. So intimately indeed was the nose supposed to be associated with the organs of generation that among the Greeks the crime of adultery was punished by the cutting off of this organ. Thus Virgil, depicting the wounds of Deiphobus in punishment for his unnatural passion for Helen, the wife of Menelaus, speaks of the "nose cut off by an inhuman wound" ("Truncas inhonesto vulnere nares").

To Dr. John N. Mackenzie we are indebted for the major part of our knowledge of the classical history of such references and he has also furnished us with much valuable and interesting information from his personal experiences with this class of cases. Few of the modern writers on laryngology fail to recognize the importance of these reflex or associated conditions. Much has been written of certain neurotic or hysterical manifestations which have in truth but little bearing upon this subject. That there does exist a direct influence upon the mucous membrane of the nose and throat, due entirely to the normal stimulation or pathological irritation of the organs of generation, is not to be doubted when we study the literature of the subject or the clinical history of these cases.

The examination of the healthy nose and throat prior of the advent of puberty and that of the normal nasopharynx in the adult presents marked

changes both in structure and secretion. In children the nostrils are relatively much smaller than in adults, due in part to the temporary habit of mouth breathing employed during recreation and to the fact that they have not yet learned the proper toilet of the nose. The vascular supply is more evenly distributed and the secretions are thin and clear. The membrane lining the septum and turbinals is pink in color and on palpation, presents no connective tissue changes; responding promptly to stimuli, even to the free ingress of air on dilatation caused by the speculum. The hairs, which are so abundantly found in some races during adult life, are entirely absent. These are among the physical signs which are more or less constant, except as they may be temporarily influenced by the acute or infectious diseases, to which the nasopharynges of children are more frequently subjected.

The change in the tone and register of the voice, the growth of hair on the pubes and in the anterior nares, as well as the development of the mammaræ in the female with the advent of puberty, are also found associated with the increase in vascularity and contractility of the erectile tissue on the middle and superior turbinates. The majority of females after puberty show a turgescence of the nasal mucous membrane regularly with menstruation amounting in some cases to a marked coryza; and where this function has been suspended for a month or when pregnancy has taken place, this periodical engorgement occurs with uniform regularity. Hyperesthesia of the mucous membrane, lining the entire nasal cavity, caused by this periodical stimulation of the olfactory bulbs, often occurs in a more or less marked degree accompanying menstruation. This condition, known as hyperosmia, is most frequently found, as stated by Dr. Kyle, in sexual neurasthenics, and is not unusual in the sexual disorders of females during menstruation. In cases where the operations of oophorectomy or hysterectomy have been performed the nasal mucous membrane again returns to its infantile type, and the anterior nares are found to be more capacious. Hydrorrhea nasi occurring in women is frequently associated with menstruation and in many cases occurs only at these times, disappearing entirely during the intermenstrual period. A patient suffering with this condition was under my care, during the past year, where the secretion from the nares was so profuse and constant just before and during the first day of the menstrual period that she was compelled to remain away from her place of employment. She had never suffered from dysmenorrhea and from her statements the flow was normal both in time and quantity, but the annoyance from the nasal condition caused her much distress.

Masturbation in children is in early years found associated with a boggy and thickened condition of the mucous membrane covering the turbinals; and if the practice be persisted in in ex-

cess after puberty the natural reactionary law obtains, and we find an atrophic state with symptoms even of ozena and of perversion of olfaction. This frequent engorgement of the nasal mucosa is sometimes relieved by epistaxis and the case is recorded by Du Sauls, which has become historical in the annals of laryngology, of a student who suffered from severe frontal headache after prolonged and close mental application and who would commit this act of self-abuse without any sense of moral wrong or sexual gratification, that the resulting bleeding from the nose should relieve the distressing head symptoms. Some years ago a young woman, aged twenty years, consulted me complaining of frequent and profuse epistaxis. On questioning her I learned that she had become pregnant at the age of fifteen years, before she had menstruated. She further confessed that she had since been an inmate of a house of prostitution, and that in all that time—a period of five years—she had only seen a normal menstrual flow on two occasions, but that after a period of profound sexual excitement she would suffer from these severe nasal hemorrhages. Examination of the nose with the speculum showed only the characteristic conditions, so frequently found in those who lead an immoral life, of a relaxed mucous membrane with increased moisture but without the redness or vascular engorgement of acute congestion. There existed no evidence of any ulceration, no erosion. Unfortunately, this case did not respond to any remedial measures and the complete history was therefore unobtainable. According to Dr. Kyle, the "special causes of such reflex nasal phenomena as sneezing, dyspnea and epistaxis, when emanating from the sexual organs, are continued abuse of their physiological function, the disturbances attending the advent of puberty, pregnancy, menopause, chronic affections of the uterus and ovaries and all abnormalities of menstruation." Sneezing and cough are frequent in both males and females not alone in coitus but even upon erotic thoughts. Dr. Hobbs, of Atlanta, and Dr. Mackenzie, of Baltimore, have recorded several interesting cases in this connection. These conditions may be present before or after the consummation of the sexual act or may be occasioned by amatory associations with the opposite sex. Engorgement of the nasal mucosa from stimulation of the erectile tissue of the turbinals and the consequent more or less complete occlusion of the nares during erotic excitement is in truth a physiological function. Under sexual excitation not only does the erectile tissue of the generative organs become engorged but the same structure in the nipples and anterior nares is also stimulated and thus produces the symptoms of obstructive respiration. In some individuals this occlusion is but slight and barely noticeable while in others it will amount to a complete occlusion of the choanæ and a resort to temporary mouth-breathing. In the lower order of vertebrates,

particularly in dogs, this occlusion of the nares through turgescence and stimulation of the erectile tissue is always present when under sexual excitement. This is evidenced by the fact that in such animals respiration through the nares is impossible while under such stress and they are therefore compelled to refrain from food and drink.

When we consider the pathological changes which occur in the nasal mucous membrane when the generative organs are in a condition of stimulation it will readily be seen how the phenomena of dyspnea, epistaxis, sneezing, etc., and even atrophic rhinitis with ulceration are produced. The elevation of the arterial tension and increased blood supply is followed in a short time by a paresis which permits a rapid dilatation of the vessels and consequent stasis. Superimposed as the nasal mucosa is upon unyielding bony or cartilagenous structures this infiltration causes it to protrude inward, which, combined with the erection of the turbinal tissue, produces a constriction of the lumen of the anterior nares. If this hyperemia be long continued, or frequently repeated, the overnutrition of the parts produces connective tissue changes and a condition of true hyperplasia results. This is not a hypertrophy, as it has been so frequently but incorrectly described, since, while there is an increase in the physical form there is no increase in the physiological functions. As a still further result of this hyperplasia the individual cells are pressed upon and local death of the part results, which in time is followed by cicatricial concentration or even chronic ulcerative processes.

The direct nerve trunks through which the above influences are reflected from the generative organs to the intranasal tissues are difficult to determine; but the assertion of the physiologist who claims that these phenomena are but local manifestations of the general stimulation of the entire vasomotor system through sexual excitement, is scarcely tenable, since this hypothesis accounts only for the accelerated blood supply and increased arterial tension. Nor is the theory of hysteria, to which Bosworth inclines, capable of furnishing satisfactory explanation. In speaking of nasal reflexes this author says "the neurotic habit is a prominent factor in the production of these disturbances in many cases and always requires attention." The fact that neurasthenia is most frequently due to sexual excess is admitted; and it is also seen that the nasal phenomena may exist without either hysteria or neurasthenia and are indeed in some cases but increased activity of the normal physiological functions of the nose. It is much more probable therefore that what direct nerve supply there is, is derived through the sphenopalatine branches of the superior maxillary nerve. This nerve passing as it does through the sphenopalatine ganglion probably contains the vasomotor fibers which are distributed to the erectile tissue covering the entire inferior turbinate, the posterior ends

of the superior and middle turbinates and a portion of the septum.

The conclusions to which it is desired to direct attention are the following:

1. That turgescence of the nasal mucous membrane always occurs during the procreative act.
2. That there also exists a marked degree of hyperesthesia of the nasal mucous membrane at such times.
3. That a more or less marked periodical engorgement of the nasal mucosa occurs in females coincident with menstruation.
4. That this same engorgement also occurs periodically during pregnancy, demonstrating that it is not dependent upon the menstrual flow.
5. That operations which destroy the functions of the generative organs cause the nares to return to the state which existed prior to the advent of puberty.
6. That in lower animals sexual excitement is always accompanied by occlusion of the nares.
7. That this engorgement in the human family may result in epistaxis or hydrorrhea.
8. That the continued overstimulation of the nasal mucous membrane from sexual perversion results in a relaxation of the same through vasomotor paresis.
9. That the long-continued hypernutrition from frequent or inordinate congestion will in time produce permanent tissue changes either of hyperplasia or atrophica.
10. That these conditions are in no way dependent upon hysteria or neurasthenia.

SEPTIC THROMBOSIS OF THE FEMORAL VEIN, FOLLOWING INFLUENZA.¹

BY D. F. TALLEY, M.D.,
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THE case I wish to report is one of septic thrombosis due, presumably, to an attack of influenza from which the patient was recovering when the phlebotic trouble occurred. Before reporting the case, I will quote from Finkler, in *Twentieth Century Practice of Medicine*, the following:

"The blood vessels have been found greatly changed in influenza. On the part of the venous system, phlebitis and thrombosis frequently make their appearance during the period of convalescence. According to the report of the collective investigation committee, disease of the femoral vein was, with few exceptions, present much more rarely than that of the anterior tibial and brachial. The cases were not often fatal; twice death was due to hemorrhagic infarction of the lung; in one instance it occurred as a result of amputation of the thigh for gangrene. It is very likely that the involvement of the veins of the lower extremities may be due to cardiac debility. Leichtenstern regards the fact that this change may

¹ Read before the Southern Surgical and Gynecological Association, November 15, 1903, at Atlanta, Ga.

be of a very acute character, as a special peculiarity of this venous thrombosis. He reports a case of thrombosis of the veins of the arm occurring in a robust physician, and accompanying a severe cardiac influenza, which led to a marked swelling and a blue discoloration of the whole extremity within twenty-four hours. He refers the fact that gangrene has been observed in cases of thrombosis of the veins to this obstructive change. As this occurs so very rarely, Litten believes that in a case reported by the collective investigation committee, the gangrene of the thigh had probably been erroneously referred to a venous thrombosis. According to Leichtenstern, however, it is repeatedly mentioned in the history of the disease that the arteries are not occluded in these cases but that, on the other hand, the venous thrombosis leads to grave changes in the extremity affected. We may mention as belonging here, an observation of Johannsen, which relates to a thrombosis of the veins of the right arm and of the right lower extremity. At the amputation of the thigh for gangrene, all of the veins were found to be filled with deeply extending, firm thrombosis; the femoral artery, on the other hand, was the seat simply of atheromatous degeneration. In influenza we meet with a spontaneous thrombosis of the arteries, such as has been regarded by Virchow as marantic, and which has been met with hitherto chiefly in the course of typhoid fever. One of the first cases of the kind is described by Leyden. It has its seat by preference in the popliteal artery, and makes its appearance most frequently during the period of convalescence. This accident leads to a grave condition of gangrene of the lower extremities, which has been described by Eichhorst, Gerhardt, and Kämmerer, and which occurred not only in aged and decrepit individuals, but also in the young and robust. Occlusion of the arteries, like thrombosis of the veins, occurs symmetrically, involving the corresponding vessels on both sides. The symptoms of an arterial occlusion in influenza do not differ from those of a similar condition occurring at other times, and consist in a sensation of cold and anesthesia of the extremities, absence of pulse beat, occasionally violent pains, bluish-black discoloration, and mummification of the parts involved.

"The prognosis is unfavorable, death occurring usually even after amputation. Septic symptoms of a general kind frequently make their appearance after arterial thrombosis. In the German collective investigation report, eight cases of arterial thrombosis are mentioned. Four of these were unilateral, involving the popliteal artery; the fifth, which was also in the popliteal artery, was accompanied by symmetrical gangrene of both legs; the sixth case was one of thrombosis of the femoral artery, with gangrene; the seventh, thrombosis of the brachial artery; and the eighth, of the cerebral arteries. In addition to this, occlusion of the *arteria centralis retinae* and of the *arteria fossae Sylvii* was observed,

but the condition in these cases was due to an embolic closure of the vessels accompanying chronic endocarditis.

"As to the cause of these thromboses, we must, of course, bear in mind, that in degenerative diseases of the cardiac muscle the formation of the thrombus occurs in the right as well as in the left ventricle, as has been frequently demonstrated post mortem. Besides this, emboli will be disseminated by an acute or chronic endocarditis, or arteriosclerosis of the aorta may be the cause of the formation of thrombi. In other cases, the already existing senile changes will be so aggravated by the influenza that the formation of thrombi can take place. Primary or spontaneous arterial thrombosis is dependent, von Leyden is inclined to think, upon disintegration of the white blood elements. This increases progressively from the commencement of the disease to the crisis, and also, beyond. Thus we must place these thrombi formations in line with the action of the blood plaque thromboses in various cases of poisoning (phosphorus, chlorate of potash). Possibly an extraordinary spasm of the vessels may also play a rôle here, as is assumed by Gerhardt. This becomes plausible by the observations made on the spasmodic action of the peripheral blood vessels, as described especially by Petrina, who noted the occurrence of temporary changes in temperature from cold to warm of a finger or a toe, in the course of influenza. The hemorrhagic symptoms in influenza, which are the evidence of intense impression of the poison of influenza on the blood vessels, are in a high degree interesting. Attention has already been drawn to hemorrhagic encephalitis in speaking of cerebral diseases; large and small hemorrhages are of not very infrequent occurrence in this organ. But we also meet with a variety of hemorrhages in other parts. Pick has described a case which ran a rapid, short course under the picture of a hemorrhagic diathesis. Bleeding from the nose, chiefly in young individuals, has been frequently observed and described by Peiper. In other recorded cases violent epistaxis has occurred only late in the course of influenza. The sputum frequently presents an admixture of blood in the shape of streaks and dots, and true hemorrhage of the lungs has not infrequently been observed, even in the absence of tuberculosis."

I have seen violent attacks of hemoptysis in some cases of chronic pneumonia, occurring at long intervals; and in another case bronchial hemorrhage has now lasted about four years, almost without cessation. Hemorrhages into the skin in the form of petechiae have been repeatedly described, and also hemorrhages of the tympanum and the frequent admixture of blood in the purulent exudation from the ear are recorded. Brando mentions three cases in which such hemorrhages occurred in the absence of otitis media. Helling twice met with an initial hematemeses in cases in which no suspicion of gastric ulcer was present.

Intestinal hemorrhages occurring in otherwise healthy individuals after an attack of influenza have also been reported. As a rule, these bloody evacuations continued for a few days, and were then followed by mucous stools. Keilmann and Dietrich described these in the gastric form of influenza. Cases of hemorrhage from the kidneys in the form of hematuria have been described by Eichhorst; or in the form of hemoglobinuria by Baumler; slighter admixtures of blood in the urine were found in some cases of nephritis. The menstrual flow during the attack of influenza has in many instances been reported to be more violent than usual, and of longer duration. Haken observed violent metrorrhagia in certain cases in which no tendency to hemorrhages of this sort had been formerly present, and Helling observed a woman of forty-nine years of age, who had ceased to menstruate for five years, and who had no uterine disease, a hemorrhage from the uterus during an attack of influenza.

In the same work Sansom has the following to say concerning influenza as a cause of phlebitis: "Inflammation of the veins arises in the course of some infectious diseases.

"This is all that can be positively asserted about the relation which the phlebitis bears to the original disease. Proof is wanting of its being a direct result in the system of the action of the specific poison, whose general effect gives the name to the original disease. But, on the other hand, it has never been proved that it is due to any diverse or even secondary infection. For the purposes of clinical comprehension, it is best to consider it a *specific inflammation arising in the course of infectious diseases, and probably caused by the same morbid agency as the general disease in which it is encountered*. In most infectious diseases it is possible to meet with phlebitis, but it is only necessary to select a few of these for clinical study. This form of phlebitis is only too often observed in epidemics of influenza. It is sometimes, only rarely though, met with in sporadic cases, a fact which would seem to show that a certain amount of virulence in the poison is a necessary factor. In the severer cases which occur in epidemics the phlebitis appears just when the temperature tends to become normal. Other complications, such as otitis, endocarditis, or nephritis may have preceded it. The pulmonary complications seem to be those which are particularly favorable to the production of phlebitis. Bronchitis and bronchopneumonia appear most prone to cause this further complication in influenza. In these cases it is when convalescence has set in, that the phlebitis appears. It most often attacks the lower limbs and undergoes rapid evolution. The pain is severe, but disappears comparatively quickly.

"The edema is marked, and rapidly mounts the limb, all the indications pointing to an early venous obliteration. The inflammation has little tendency to affect both limbs; when it does so, the second outbreak is benign in character. When

once the veins have become affected, the disease seems to lose its virulence; both the local and the general symptoms seem to be checked. Very rarely is this phlebitis followed by fatal morbid phenomena. If the influenza be mild, as in sporadic cases, the phlebitis, when it occurs, is also mild. In such cases it generally attacks the calf and saphenous vein, and disappears comparatively soon.

"One peculiarity of the phlebitis of influenza is its proneness to spread in the organism in patients already the subjects of other debilitating diseases. Cancerous cachectics, chlorotics and consumptives exhibit this peculiarity of the disease. Influenza is also specially prone to reawaken neuralgic pains suffered in times past by patients who have had some other form of inflammation of the veins. In influenza the pains recur with pronounced neuralgic character. But this may be the extent of the venous mischief, not amounting to true phlebitis, for the symptoms disappear as soon as the influenza is cured. In general, the large veins are the ones that are attacked in influenza, and consequently the pathological sequelæ are often persistent and troublesome. They are rarely fatal, and embolism is the exception. The reason of this may be that, when the large veins are thus attacked, more care and attention are bestowed on the cases, as the symptoms are more grave."

Case.—Miss M. B., single, aged thirty-one years, by occupation a nurse; had been in good health for the past eleven years. She had typhoid fever when twenty-five years old, but no phlebitis following, and was sick three weeks with influenza before any sign of phlebitis arose. The temperature during the attack of influenza went to 104.5° F. showing an intense infection. She had severe pain in left side of the chest one week before phlebitis came on, and when the latter occurred the chest pain was relieved. The first pain she had with the phlebitis was in the region of the psoas muscle. It then extended down the thigh and the leg, and the thigh commenced to swell. Soon after this she began to have hard and irregular chills, followed by very high temperature. She went on in this way for a week before I saw her, when Dr. H. L. Martin sent her to the infirmary for an operation. When I first saw her she complained of severe pain in the region of the psoas and iliacus muscles. There was considerable swelling of the thigh and marked induration and tenderness along the femoral vessels. There was also discoloration, which was of a dark or venous color. The case at first impressed me as being a psoas abscess pointing in Scarpa's triangle, although Dr. Martin had already made the diagnosis of phlebitis. I watched her closely for four days after she entered the Infirmary before I decided to operate. During this time she had one or two chills daily, with a sharp rise of temperature to 104° or 105° F.; with marked signs of prostration. After keeping her under observation for three days I

decided that it was a case of septic phlebitis, and determined to operate the next morning. At this time the venous discoloration was quite marked; she was getting very weak; all her secretion were sluggish; the tongue was badly coated, and every indication pointed to an early death, unless she was relieved of the source of poison.

On the morning of the operation, while she was being prepared, she had the hardest chill as yet, and her temperature rose to 106° F. The case appeared so urgent that I did not think it wise to delay the operation, so she was put on the table and operated on while her temperature was 106° F. in the flexure of elbow, which means that her actual temperature was at least 107° F. I cut down over the femoral vein and expected to find pus there under the deep fascia around the femoral vessels. After going through this fascia and exploring thoroughly, no pus was found. I then decided that all the trouble must be in the femoral vein, so I dissected it out, and just at the entrance of the long saphenous vein I found evidences of a clot. The saphenous vein was ligated and cut loose from the femoral, and the contents of the femoral examined through the saphenous mouth. The femoral was found completely filled and occluded with a rather firm, grayish, dirty clot. I then slit the femoral up to and a little under Poupart's ligament and removed the clot, and ligated with chromic catgut above the incision. The vein was then slit for three inches below the entrance of the long saphenous and the clot removed. A long probe was then passed down the vein for at least six inches, but the thrombus extended further, and not a drop of blood came through after removing the probe. The vessel at this end of the slit was then ligated and the wound irrigated and packed with sterile gauze, wrung out of hot carbolized solution.

In two hours and a half after the operation the temperature had gone down to normal, a fall of 7½ degrees. This sudden reduction was rather alarming, but as the patient's general condition seemed to be getting better, there were good hopes for reaction. The limb was elevated and surrounded with blankets and hot bottles, and her whole limb was kept perfectly warm for two weeks. There was no sensation in the foot, and for some distance above the ankle after the operation, and in a few days the toes began to shrivel and take on a dusky hue. There were three or four spots on the foot that commenced turning black and I feared that gangrene was setting in that would involve the whole limb. However, in a few days a line of demarkation formed about these spots, and then I felt some hopes, for the first time, that most of the limb would be saved. After the operation the patient did nicely, and her temperature remained about normal until the third day, when she had a chill, and it rose to 103° F. I thought then the small portion of clot left between the ligature and the

external iliac vein was giving trouble, but she soon recovered from the chill and had no further evidence of infection.

My treatment in this case and the result so far as I can learn are entirely unique. Very little is found in surgery as to treatment in septic phlebitis outside of opening the abscess, which is usually caused by the infection. In Dennis' System of Surgery I find the following on treatment: "In case the superficial vein is involved, the prevention of septic infection and the dangers of emboli can be averted by an operation suggested by Dr. Lea, in which a needle is passed beneath the vein above and below the thrombus, and the vein divided. If the deep veins are involved and the septic thrombus is causing the symptoms of pyemia, amputation above the inflamed area is indicated to save life. The operation to be successful must be performed early, before the constitutional symptoms are well marked, and with every possible antiseptic precaution. Fortunately, such an emergency seldom arises.

The incision in the thigh became healthy in about ten days after the operation, and commenced filling with healthy granulations, and was entirely healed in a few weeks. The gangrenous tissue of the foot sloughed out, and the resulting ulcers healed slowly. The great toe had to be removed, but a useful foot was left. The patient left the city for her home in the country in April, about ten weeks after the operation.

I had Mr. Hall, of the Surgeon-General's office, prepare a bibliography of diseases of the veins, and he found only two reports of thrombosis of the femoral vein due to influenza, and the involvement of the vein occurred very much in the same manner as in the case I report. Of these two cases one is reported by Kozlovski, in the *St. Petersburg Gazette*, which was translated for me by a Russian scholar, in Washington, as follows:

"Peasant woman, aged forty-eight years; cook; of healthy family. Fifteen years previously had a child at term; no abortions. August, 1897, she had erysipelas of face, and was treated in Alexandrovski Hospital for the erysipelas. Present disease appeared four days after patient was discharged from the hospital. The symptoms were: Fever, general weakness, headache, vertigo, anorexia, catarrh, cough, dry at first and later accompanied by a small quantity of mucopurulent sputum; later, blood appeared in it. Present condition, September 22: Fever; skin dry and hot; no eruption. Lymphatic glands slightly enlarged. Tongue coated, white, moist. Fauces: Considerable hyperemia in spots. Lungs: Slight dulness on percussion in right middle axillary line below seventh rib. Breathing vesicular, somewhat metallic. Heart normal; sounds somewhat dull. Abdomen somewhat tympanitic; painful to pressure along colon; no appetite; stools regular. Liver projects some distance below false ribs; no pain. Spleen not enlarged.

Sexual organs: Left ovary enlarged. Urine: Acid reaction, 1.010 sp. gr.; straw-color; no sugar, albumin or casts. 2 P.M., temperature 99.1° F.; 6 P.M., temperature 101.1° F., pulse 100, respiration, 24.

"September 23 to 25: Temperature varied between 99° and 99.3° F.; pulse between 96 and 92. September 23, slight dulness over left lung, below, behind, and on the side; diminished vesicular breathing; crepitant râles. September 24, bronchial breathing; cough; small quantities of sputum, mucopurulent, at times bloody; stabbing pains in left side. The abdominal symptoms gradually diminished and vanished September 25. Examination for tubercle bacilli, September 23, negative. September 26 to 28, all symptoms ameliorated; appetite returned; lungs normal. Stitch in the side continued. Temperature varied between 97.5° and 99.3° F.

"September 29 (twenty-sixth day of disease): Temperature, 99.3° to 98.6° F.; pulse 88. Right lower extremity, in region of gastrocnemius muscle, increased in size; lancinating pain; movement in knee-joint painful and difficult. Skin in affected region livid; hard, tender cord in popliteal region; no edema of leg; no pain on left side. Gastro-intestinal functions normal. September 30: Swelling extended almost over the entire leg; no edema. October 1: Swelling increased; no edema. October 2: Small subcutaneous hemorrhages in lower portion of popliteal region. October 3: Swelling extended up the thigh, so that the entire right leg was involved; movements painful and difficult; skin over entire extremity very livid; under Poupart's ligament a hard cord is felt, painful to touch; no edema; considerable pain over entire leg. Oct. 7 to 19: Swelling gradually reduced; no edema at any time. Perceptible development of cutaneous veins of the extremity. Gradually improvement of symptoms. October 20 to 30: Patient gradually began to stand, then walk on right foot; at first with assistance. The pain at first experienced gradually decreased. October 30: Patient could walk unassisted and without pain. Temperature varied between 96.8° and 98.6° F. October 31: Patient discharged from hospital on request, and not seen again.

"Treatment consisted of absolute rest, with the leg raised, warm (boric acid) compresses, following preliminary inunctions (not rubbing) of blue ointment, etc.

"In this case we see venous thrombosis developing after influenza, and involving all the deep veins of the right lower extremity, sparing not even the femoral veins. This thrombosis appeared on the twenty-sixth day of the disease, when there was already improvement. Thrombosis developed on the twenty-sixth to the thirty-second day of disease. The temperature did not markedly increase, but on the fifth day it reached 100.7° F. The decline began on the ninth day of the thrombosis."

The other is reported by E. Leyden, as fol-

lows: "Last year I wrote a paper on arterial thrombosis following influenza. In the following brief communication I intend to complete my remarks on vascular obstructions following influenza. This remarkable disease, though on the wane, still claims so much of our attention as to make a completion of its pathology desirable. Indeed, its pathology is almost inexhaustible on account of the numerous complications and sequelæ.

"The venous affections following influenza have excited less interest than the arterial thrombosis, because they are less dangerous. The extensive injurious consequences of arterial obstruction which, in general, are much rarer than venous thrombosis, impart to them a special importance.

"The venous thromboses have been less studied. But they have received more attention in France, as I learn from a thesis by Dr. Chaudet. I shall first mention a case of my own observed in the Charité Hospital.

"Bertha R., a servant girl, twenty-two years old, was admitted January 16, 1893, to the First Medical Clinic, and discharged cured, March 20. Diagnosis: Influenza, with venous thrombosis of the left femoral vein. Anamnesis: Patient was taken sick January 13, in the evening, experiencing sudden cutting pain on the left side of the chest. The sputum looked brown. As she grew worse she came to the Charité Hospital.

"Examination: Patient is of strong build and well-nourished. Face much flushed. Complains of cutting pains in chest, but does not give the impression of a serious disease. Examination of the lungs: On the left side, behind and far down, moderate dulness over an area of the size of a hand's breadth; auscultation gives friction râles on deep inspiration; breath sounds diminished. Temperature, 100.4° F.; pulse, 120; respirations, 30. Urine dark, little albumin, no diazo-reaction (January 16). Treatment consisted of a hydrochloric acid mixture.

"January 20: Temperature at midday, 99.5° F.; evening, 99.9° F.; pulse, 104. January 26: Temperature in evening, 99.9° F.; pulse, 89. January 26, patient is pale and somewhat cyanosed; she complains of cramps in the left foot, so that she can move only with great pain. The whole left foot looks larger than the right; the skin is tense, edematous and a little cyanosed. The abdomen seems a little enlarged, but not sensitive. The pulsation of the femoral artery is distinctly felt on both sides, but in the inguinal regions a venous thrombosis can be felt, which extends upward beyond the Poupart's ligament, and is tender to the touch. Warm compresses; at night, sulfonal. January 29: Temperature in evening, 101.7° F.; pulse, 92 to 100. Moderate pain below Poupart's ligament. Pressure on the femoral vein less painful. Edema of the left lower leg. Expectoration scant, mucopurulent; on examination, no influenza bacilli. Urine, sp. gr. 1.030; no albumin. January 31: Temperature, 98.5° to 97.7° F.; pulse, 92. Skin and

conjunctiva are slightly icteric; liver not enlarged or tender. In urine neither bile pigment nor albumin. Edema of the left lower leg still present. The thrombotic venous cord above Poupart's ligament still distinctly felt; less so below Poupart's ligament. February 3; Temperature, 98.3° to 99.3° F.; pulse, 100. The edema of the left leg has decreased, but patient still complains of pain in it. February 7: The edema of the left leg has decreased. The venous cord still present, but not painful. February 10: Resistance above Poupart's ligament has decreased. The edema has almost disappeared. Steady improvement, and final cure."

EPICRITICAL REMARKS.

As the disease occurred just in the midst of a violent influenza epidemic, and its course (fever, affection of the lungs, prostration) conformed with the picture of influenza, this diagnosis is sufficiently confirmed. The venous thrombosis began on the fourteenth day of the disease, when a marantic state of the patient was impossible; besides, it began with recurrence of fever, which lasted four days, ended with crisis, and resembled throughout an influenza fever. The thrombosis of the femoral vein could therefore not be interpreted as a marantic thrombosis, but as a new development (sequela), which appeared under new febrile symptoms. The symptoms were clear, characteristic, but not severe; the disappearance of the thrombosis favorable and relatively quick.

The origin of the thrombosis cannot be ascribed to marasmus. I therefore think it can be explained in a similar manner as arterial thrombosis. "It is very easily possible to connect the remarkable phenomenon with the degeneration of the white cells of the blood, which increase from the beginning of the disease up to the fibrile crisis, and even after it, and then furnish extensive products of degeneration." (Blood plaque—thrombosis.)

The symptoms have been well described in the above-mentioned work (Chaudet). Professor Litten (cited in Chaudet's thesis) says (page 85): "In the venous system we meet phlebitis and thrombosis frequently during convalescence. With few exceptions it is the femoral vein, more rarely the tibial or cervicobrachial. I have collected 25 cases, but without special data of their course. Three cases terminated fatally; twice from hemorrhagic infarct of the lung; once from gangrene of the thigh, with amputation. But I think that in this case it was not a thrombosis of the vein, but of the femoral artery, as venous obstruction scarcely ever leads to gangrene of an extremity."

In a French monograph on influenza, by F. Teissier (Paris, 1893), venous thrombosis is described in detail. Page 117 says: "Influenza phlebitis is not at all rare. Besides the cases described abroad, I can mention five cases of my own. In two cases there was a bilateral phlebitis

of the lower extremities; in both instances the venous thrombosis resulted from an influenza pneumonia. One of the cases (female) was especially interesting; her condition very serious. Both lower extremities were enormously edematous, pale and painful; just like phlegmasia alba dolens. As there existed at the same time albuminuria and an affection of the myocardium, which showed itself by irregularity and feebleness of the pulse and attacks of syncope, the diagnosis for a time remained undecided between a myocarditis and Bright's disease. But recovery followed after two months, under the influence of rest, tonics, and especially of subcutaneous injections of caffeine."

At the close, I add an interesting case of Dr. Orlando's of Athens (*Progrès Médicale*, 1890, p. 158):

"S. K., fell sick on December 14, 1891, from exposure to cold. General malaise, weakness, anorexia; at the same time coryza, facial neuralgia, which troubled him for eight days. A few days later, when the patient was already quite well, he was attacked in the evening with an intercostal neuralgia; he then experienced chilly and cutting pains at the base of the right lung, accompanied with slight cough. A pneumonia resulted, which lasted eight days. During convalescence patient suddenly felt severe pains, which extended the whole length of the right lower extremity; which was at the same time covered with numerous hemorrhagic spots of very livid hue, especially on the inner side. Three days later, swelled up enormously, and could not bear the least touch, especially in the direction of the saphenous and the crural veins. At the same time, numerous vesicles—the swelling extends up to the hip. The temperature variations were of a moderate grade only.

"In the night of June 15, patient suddenly woke up with a sensation of great distress and orthopnea; feeble pulse and general failing. By repeated injections of camphor, patient could be brought too again. On the next day violent fever, cough, expectoration.

"June 24: The phenomena of a very painful neuritis were found. On February 1, the left hip swelled up like the right one. To this was added, to complete the unfortunate circumstances, a phlebitis of the right basilic vein. This multiple phlebitis and the emboli greatly weakened the patient.

"Twenty days later the symptoms had abated, and the patient began to recover, only the swelling of the feet and the subcutaneous spots remained, and did not disappear until patient went up and down stairs."

My case was much more intensely poisoned than any of the above reported cases, and would have died in a short time had this septic clot not been removed. Unfortunately, the clinical charts of this case were lost, and I cannot give an accurate and detailed history of the temperature and pulse during her convalescence.

**SPORADIC CRETINISM. OBSERVATIONS BASED
ON SIXTEEN PERSONAL CASES.¹**

BY E. MATHER SILL, M.D.,
OF NEW YORK.

CRETINISM, or, as the French call it, *crétinisme idiotic avec cachexie pachydermique*, or as the English call it, infantile myxedema, is a condition of imperfect mental development or idiocy, with a corresponding lack of physical development or deformity, with marked disproportion between the different parts of the body, arising from insufficient or entire absence of secretion of the thyroid gland. In this definition the term cretinism included only those cases in which the arrest of development is due to thyroid disease in infants or children under fifteen years of age or in which there is an arrest of development of the gland before birth.

This condition differs from myxedema in the adult, in that in addition to the symptoms of myxedema there is an arrest of mental and bodily development. Some writers have made a sharp distinction between the endemic and sporadic form of cretinism, saying that the fontanelles close early and there is premature ossification of the phenobasilar in the former and myxedematous skin only in the latter form, but careful investigation shows this division to be artificial rather than real.

The disease is found sporadically in almost all parts of America, Europe and Asia. Although a comparatively rare affection.

The causes of cretinism may be any one of the following: (1) Absence of the gland; (2) arrest of its development; (3) fibrosis with atrophy of the gland substance; (4) conversion into goiter; (5) removal by operation.

When symptoms show themselves at birth, they are due to absence of the gland, but when the child is born healthy and begins to show signs of cretinism during the first few months or years of life it is evident that the gland must have been formed at birth and that later there was a fibrosis and atrophy of its substance, which Murray believes to be a replacement fibrosis.

Cretinism may develop in utero and cause the death of the child and the symptoms may be only partly developed at birth and become more marked later. The congenital varieties are very rare. Gärtner says a syphilitic mother can have a myxedematous child.

This disease occurs more frequently in the female than the male. Out of 14 cases which I have under observation, 3 were males and 11 females. From a series of 158 tabulated cases from different writers 57 were males and 101 females. Fletcher Beach found out of 116 collected cases there were not quite twice as many females as males.

Sporadic cretinism does not appear in two successive generations, since cretins of both sexes are nearly always sterile.

We have no evidence to show that children of parents who have subsequently become myxedematous are more liable to the disease than others, but the disease may appear in two or more children in the same family. I have now under my care one family where three of the children are cretins and have been under treatment since shortly after birth. The rest of the children are perfectly healthy and normal. I have another family where two of the children are marked cases of cretinism and the others enjoy perfect health.

I have noted in a number of instances the parents were cousins and I consider this to be more or less of an important etiological factor. All my cases have been of Russian or Austrian parentage. According to Kocher, whenever goiter or cretinism appear in the children, one of the parents will be found to have goiter and this is thought to be the first step on the road to cretinism, but it seems to me this must only apply to the endemic form, as it does not agree at all with my own observations as regards the parents of sporadic cases. The sporadic cretins rarely have goiter, in which they differ from the endemic form, over 60 per cent. of which have goiter. It is very rare in this country to find a cretin with goiter, and I have only seen two cases. Of 116 cases of sporadic cretinism collected by Beach 7 had goiter, and of 60 cases collected by Osler 8 per cent. had goiter. Out of 16 autopsies on sporadic cretins 14 had no gland and two were goiterous, showing how frequently the gland is entirely absent.

Cretinism is said to develop after measles, pertussis, typhoid, scarlet, and nephritis, and such cases are on record. But whether any one of the diseases had anything to do with the causation of cretinism is difficult to say.

Kocher also says that congenital or inherited cretinism is derived from the mother alone, whereas inherited cretinism appearing after a lapse of years is derived from the father alone, and his explanation is that the fetus and nursing infant is supplied with the normal thyroid secretion through the mother, but after the normal source of the thyroid function is cut off and the child is forced to rely on its own gland secretion, then, through failure of the gland to perform its function, disease develops.

Some of the theories which have been advanced explaining the presence or absence of the thyroid secretion of the body metabolism are the following: Seman believes removal of the gland secretion interferes with the full chemical development of the constituents of connective tissue so that these take on an embryonic character with excess of mucin. Mendel believes the secretion normally neutralizes certain toxins in the blood and when the secretion is suppressed toxins accumulate and excite symptoms. Patterson has two theories, one is that the gland secretes a substance which is essential to health and harmonious activity of the central and pe-

¹ Read at the January Stated Meeting of the City Hospital Alumni, New York City.

ripheral nervous system, and by want of this the nervous system is deprived of a substance regulating the distribution of mucin. The other theory is that the gland secretes from the blood material, which, by its retention, causes a form of toxemia. He believes the thyroid is an antitoxic gland, the function of which is to destroy toxic substances or render them innocuous.

Fagge believes the cause of cretinism is an infection. Reverdin, Kocher and others have shown that total excision of the thyroid gland in man is followed by a group of symptoms characteristic of cretinism or myxedema. A similar condition has been observed by Horsley in animals treated in a like manner in which he found mucin deposited in the subcutaneous tissue.

All these theories seem plausible and we must accept them at present as we have no means of disproving them, but I can hardly agree with Fagge in calling cretinism an infection.

I believe with Mendel, and with Patterson, in his second theory, that the thyroid gland gives off an internal secretion which has an antitoxic or neutralizing effect upon certain poisonous substances, which are formed in the body and that its action under normal circumstances is as a regulator of metabolic processes.

Symptoms.—The appearance of a cretin is so unique and characteristic that in a well-marked case, it can be recognized almost at a glance by those who are familiar with the disease. The early symptoms may be easily overlooked, however, and symptoms may show at birth or only after a few months or even years. The symptoms have been quite uniform and similar in the cases I have seen. Symptoms of maldevelopment are noticed by the parents usually about the sixth month, when it is found the child is not growing as rapidly as it should, does not develop mentally and has a peculiar swollen appearance of the face. As months go on it does not develop either physically or mentally, as do other children; it remains stunted in its growth, the bones being short and rachitic. The skin appears swollen but does not pit on pressure. This edematous condition is most evident where the subcutaneous tissues are lax, as in the eyelids, cheeks, neck, and especially in the supraclavicular spaces. The back of the hand and dorsum of the foot may be swollen. The hands are short and spade-shaped with enlargement of the thenar and hypothenar eminences. The face is rounded from the swollen condition. The eyes are widely separated, the nose is short and broad, depressed at the bridge, turned up at the tip and the nostrils dilated. The mouth is generally open and looks large, the lips being thick and everted, and the swollen tongue frequently protrudes. The ears are large and prominent. The complexion is pale or often of a peculiar yellowish-brown color, and the lips are opaque or cyanosed. The skin is dry and rough and cold to the touch,

and the scalp is rough and often covered with dry crusts. The hair is coarse and fairly abundant, or it may be scant. The teeth are late in appearance and often carious. The neck is short and thick, and in the majority no thyroid is felt. The abdomen is large, prominent and tense. The temperature is one to two degrees below normal, and the pulse and respiration are correspondingly slow. These cases are as a rule anemic (and there may be arrest of development of the generative organs), and lordosis of the spine is frequent. Constipation is a marked symptom.

The mental symptoms are quite characteristic. The child when awake sits or lies languidly in one position and appears to take no interest in its surroundings, a great contrast to the activity of a healthy child. It can be roused by the sight of a familiar face, such as that of one of the family or by the sight of food, but when a stranger comes into the room it will often try to hide.

Young cretins are dull and inactive and evince great dislike to bodily activity. Some are so deficient in mental powers as to be helpless idiots, and some, as they grow older, remain in much the same condition as in childhood; they are able to feed themselves, use a few simple words, and are clean in their habits, but show no more intelligence than a healthy child of one or two years. Others are more intelligent and improve by proper education.

These little patients are apt to be shy, diffident and obstinate.

The expression of a cretin is usually stolid and fixed. Most cretins may be easily amused, but seldom laugh much. They nearly always sleep well and for longer periods than healthy children. The digestion is often impaired. The sight is generally good, although the eyes are not fully opened, but the hearing is often imperfect.

Cretins are very late in learning to crawl or walk, and often cannot stand alone before the fourth or fifth or tenth year.

An examination of the blood has shown a fetal state of the red corpuscles.

The severity of the symptoms is in proportion to the destructive disease of the gland. The less the amount of secretion passing into the blood from the gland, the more severe are the symptoms.

As regards the prognosis of this disease, I would say that the earlier in its course treatment is begun, the more favorable will be the ultimate result. When treatment is begun late intellectual development never becomes normal, and they never attain their normal growth.

Diagnosis.—Cretinism may be confounded with early rickets, infantile obesity, dwarfism, achondroplasia, edema of Bright's or cardiac disease, general lipoma and Mongolian idiocy, from all of which it may be differentiated without difficulty. In rickets there is a history of improper feeding, and the whole appearance is

different from that in a cretin; the child being bright and lively. Infantile obesity varies in that it is due to excess of fat, instead of a thickening of the skin. In dwarfism the child is normal in appearance with the exception of its small size. Achondroplasia is characterized by arrest of growth of the diaphyses of the long bones with enlargement of the epiphyses. In Bright's and cardiac disease the edema is real and pits on pressure and we have involvement of the kidneys in the one and disease of the heart in the other. In general lipoma we have none of the characteristic symptoms of cretinism. Mongolian idiocy, which is occasionally taken for cretinism, may be distinguished by the activity of the child and the smiling, observant countenance and the smooth non-myxedematous skin.

Treatment.—Surgical treatment by implantation of the thyroid glands of an animal in animals and men has been successful in quite a number of cases, but after a time the gland becomes absorbed and symptoms of thyroidism reappear. It has been shown that all operations on the thyroid gland stimulate its activity for a while.

The discovery that the extract made from the thyroid gland of animals, sheep principally, could be used with the same effect on the body metabolism as the gland itself, has opened a new field for the treatment of this disease and has led to its general use in these cases, with results most gratifying. The effect, when given early, is almost magical and children hitherto doomed to a life of imbecility and affliction to their parents may become fairly intelligent citizens. The symptoms can in a great measure be entirely relieved by the continued use of the extract. The patient grows rapidly, both mentally and physically. The face assumes a normal appearance. Trophic disturbances diminish. Visceral disturbances disappear. The hair grows glossy. The secretion of urine increases. Red nucleated cells appear in the blood. The temperature rises. The total quantity of blood increases and there is a transient leucocytosis, so that usually within a year after treatment was begun, the child's body is that of a normal infant or child, and the intellect is rapidly awakened from an imbecile state to that of moderate mental activity. In older patients the treatment is not so effective.

Chemical physiologists have been searching to find the active material in thyroid extract. Some believe it to be a nucleoprotein; others a crystalline substance called thyro-antitoxin (Fraenkel); others believe it to be a compound which they have separated from the gland and which contains a large percentage of iodine in its molecule.

It has been my practice to start with one grain of the solid extract a day, best given in divided doses, and gradually to increase the dose until a point is reached where there is a rise of temperature or the pulse is unduly accelerated, then keep the dose just below this point and

give in divided doses with the meals, increasing the dose in accordance with the child's body-weight. I have given as much as 15 grains a day with no untoward result.

After symptoms disappear two to three 5-grain tablets a week is usually sufficient to control the disease.

In conclusion I would say, this disease seems to be as yet not well understood and there is a great diversity of opinion as to the effect of the presence or absence of the thyroid secretion upon the body metabolism, but I think all agree that it is a most important and vital secretion and is essential for the proper regulation of metabolic processes.

The majority of cretins, if seen early and given thyroid extract systematically, will be entirely cured or relieved of symptoms, but treatment must be kept up more or less regularly for a lifetime. Cretins may live without treatment to the age of sixty years, but this is rare and most cases die before thirty years of age.

NOTES OF CASES.

Case I.—Fanny W., aged six years; June 16, 1902. Family history negative. Personal history: When six months of age mother first noticed child was not growing or developing as other babies, but was dull and stupid. Her face looked swollen and the tongue protruded slightly and she could not sit alone. This condition got gradually worse and the abdomen became enlarged. When first seen was three years of age and had the typical appearance of a cretin. Was put on Parke, Davis & Company's thyroid extract and has improved rapidly; now, at six years of age, is almost normal.

Case II.—Gussie K., about eight years of age; January 8, 1905. Family history negative; parents Austrians. Personal history: A few days after child was born mother noticed enlargement of thyroid which got gradually larger as the child grew. When one and one-half years old could stand and walk a little. When six years old could talk a little but could not be understood. Always had a rather large abdomen. When five years old began taking thyroid extract and since then has grown rapidly and improved mentally. Has been going to school for a year and is now in the fifth grade. The goiter is diminishing in size.

Case III.—Yetta K., aged fifteen years; sister of Gussie K. (Case II); January 10, 1905. Family history negative. Personal history: Child perfectly normal in appearance until nine months of age, then was weaned from the breast. Mother now noticed child's head was very large as well as the abdomen. The legs were kept crossed all the time. The child became dull and stupid and slept a good deal; could not stand or walk until nearly two years of age. Began to take thyroid extract when six years of age and began to say a few words when ten years of age. Now, at seventeen years, she is almost

an imbecile, but says a few words and has a characteristic way of scanning speech. She does housework, laughs and smiles in a foolish way, and can say her A B C's in a sing song voice, but that is about all. She cannot even write her name. She has a large goiter. Her hair is coarse, skin dry and rough and yellowish in color. Talks very slowly and it is hard to tell what she says. Has fully developed breasts and genitals and the development of a woman past puberty. She is 51 inches tall. Does not go to school.

Case IV.—Mamie K., aged five and one-half years; June 17, 1903. Family history: Sixth child; mother was sick most of the time while carrying the baby and confined to the bed a good deal of the time with pains in the abdomen. The mother developed goiter shortly after the birth of the child. The other children are all healthy. Parents are from southern Russia. Personal history: Almost immediately after the child was born the mother noticed it was yellow, the face was swollen or very fat; the abdomen was very prominent, the hair appeared to be growing down to the eyebrows, covering the forehead and giving the child very much the appearance of an ape. The hands and feet were always cold and the child cried a good deal and at that time got out of breath and blue in the face. Her tongue always protruded from her mouth. Patient was first seen by Dr. H. Koplik, when three weeks old and put on thyroid treatment, under which all symptoms improved rapidly, to appear again when treatment was discontinued. She has always had a swollen appearance of the face; the eyes are half closed and sore most of the time. She shows lack of interest in her surroundings, seldom laughs, is shy and obstinate and is constipated most of the time. Her temperature is two degrees below normal and her hands and feet are cold. This was the condition after nine months without treatment. She is now over seven years of age, can say only two or three words, is 39 inches tall and is taking 12 grains of thyroid extract a day. She is improving, although slowly, and is much better than when I first saw her.

Since reading this paper this child has improved wonderfully; has lost her shyness; has a healthy appearance, with rosy skin and is bright and smiling and talks and plays a good deal with the other children and is growing rapidly.

Case V.—Florence F., Feb. 1903, aged seven months. Family history: Father and mother cousins. First child. Personal history: Almost since birth child has been rather stupid acting and has not grown well. At six months mother noticed especially the large protruding tongue and large abdomen, also the swollen appearance of the face. Child had been nursed. When first seen, at seven months of age, was maldeveloped and looked rachitic. Was not seen again until ten months old and then had the characteristic

appearance of a cretin. The child had not developed any; the face looked swollen, the tongue protruded, the abdomen was large and tense, the ears were large; the hair thin, eyes partly closed, extremities were short and hands spade-shaped; skin yellow and wrinkled, expression very stupid; could neither stand, sit nor creep; no thyroid felt. Symptoms improved under thyroid treatment, but the child got an enteritis during the summer while in the country and died at the age of fourteen months.

Case VI.—Phillip S., aged eleven months (January, 1904). Family history: Mother and father were second cousins; this was their first child. Mother has slight goiter. Child was born at seventh month of pregnancy and was a difficult labor, but no instruments were used. Child's head was very large at the time of birth. Personal history: Child was very susceptible to colds and suffered from bronchitis most of the time. Abdomen was very large but extremities were small. The child at no time showed any intelligence and it had the appearance of an idiot. The child was nursed until eleven months old and then was put on modified milk. It was seen first at this time. In June child contracted lobar pneumonia and in a few days both lungs were involved and the child was sick for a month but finally recovered. During all this time it ran a low fever. In the summer the mother took it to the country where it got a severe diarrhea which resulted in its death at eighteen months of age.

When child was first seen it appeared markedly rachitic; with widely open fantanelle; only one tooth, open mouth with tongue protruding; large ears, short extremities, skin of a brownish-yellow color; could not sit alone; large abdomen, idiotic expression, short snub-nose with depressed base; face looked swollen. Was put on thyroid and symptoms improved.

Case VII.—Fanny M., aged one year eight months (June 28, 1903). Family history negative. Personal history: Nursed 1½ years. When child was only a few months of age mother noticed that it seemed stupid; was not like her other children, and seemed to take no interest in its surroundings; later on, when child was a year old, the tongue was noticed to protrude and there was always a swollen appearance of the face, the child was pale and cold and had a cold most of the time and grew very slowly. When first seen at one year and eight months of age, the above described appearance was present; it could not stand or sit alone and could not say a word. The child took treatment at this time for a week or so and was then lost sight of until January 5, 1905, when the above noted symptoms were more marked; child could say only mama and papa; could not walk but could stand alone with difficulty, legs were very bowed. It was very unintelligent and would smile in a foolish way. Now on thyroid treatment, and is improving rapidly.

Case VIII.—Dora S., aged sixteen months (January 9, 1905). Family history: Mother had a severe hemorrhage before becoming pregnant the last time. Otherwise healthy. Personal history: Patient normal until fourth month, when mother noticed protruding tongue, and large abdomen; the child was more or less blue and cold, and the face looked swollen. These symptoms steadily increased until patient was thirteen months old, when she was seen. She has been taking thyroid extract for three months and all the symptoms have improved markedly. The child now laughs and smiles and looks healthy and happy, with the exception of its large tongue, somewhat enlarged abdomen, no teeth and inability to creep or stand alone. The tongue does not protrude so much and the abdomen is smaller than it was.

Case IX.—Sarah S., aged nineteen months (January 9, 1905). Family history negative; fifth child; others normal. Personal history: A few months after child was born mother noticed protrusion of tongue and used to slap it to make the child keep it in the mouth, but this treatment naturally did no good. The child has grown much more slowly than the other children, has a large head and large abdomen and rather a stupid expression with tongue hanging out of the mouth. When seventeen months old could say mama and papa. Could stand alone and walk a little by holding on to chairs. Has not progressed any since, either mentally or physically; parents refuse to take thyroid for child.

Case X.—Lilly G., aged thirty-four months (January 11, 1905). Family history: Eighth child; parents and other children healthy. Personal history: Child normal at birth, but has always been constipated. When the child was one year old mother noticed its mouth was kept open and the child had a very large protruding tongue, which looked red and swollen and the face and eyelids had a rather swollen appearance. When eighteen months old could stand alone and at thirty-two months could say papa and mama but has not learned to say anything else. Last year had pneumonia. Child is fat and edematous-looking, skin is pale and yellowish, extremities short, hair thin, hands short and spade-shaped and skin covering them rough and wrinkled. Nose short and turned up at tip, depressed at base; lips thick and everted; height 30½ inches. Very timid and shy and cries when approached by a stranger. Has just been put on thyroid treatment.

Case XI.—Harry G., aged nine years (August 26, 1903). Family history negative. Personal history: When about one year old, the mother began to notice that the child was not growing as her other children had grown and seemed very dull and stupid and kept its large tongue sticking out of the mouth most of the time, the abdomen was large, but the extremities were small; the eyes were partly closed, the skin was

rough, the hair dry, coarse and thin; the child did not have any teeth and could not sit alone and never smiled. Its ears were very large and it was constipated. At this time it was put on the thyroid extract treatment and has been taking thyroid extract, more or less, regularly since. The improvement has been marked; the child has grown rapidly, has become intelligent, goes to school and appears like other children. Is now eleven years of age.

Case XII.—Sadie G., aged seven years (February 3, 1903). Sister of Case XI. Family history: Elder brother a cretin. Personal history: When about six months old, the large abdomen, swollen appearance about the face, and dull expression attracted the mother's attention and the child was brought to the physician, who at once suspected the trouble, and as the child got steadily worse she was put on thyroid and at once began to improve; has been on thyroid ever since. Has grown well both mentally and physically and is now the equal in all respects of a normal child of her own age.

Case XIII.—Benj. G., aged three and one-half years (August, 1903), brother of case XI and XII. Family history negative. Personal history: At about a year of age began to show marked symptoms of cretinism, but at six months had yellow, dark-colored skin, was always sleepy and dull and did not care to play. Eyes were partly closed and mouth was open; hair was coarse and abdomen prominent, face looked swollen. Was put on thyroid and improved rapidly, but never seemed to get perfectly normal. When four years old died of lobar pneumonia.

Case XIV.—Sarah G., aged eight years (August 19, 1904). Family history negative. Personal history: Child has always been very much stunted and backward in learning to talk and walk; talks very little now; has a large head, swollen-looking skin, partly open mouth with tongue protruding slightly; large abdomen, short extremities, semi-idiotic expression. Says only a few words and speaks very slowly. Is about the size of a child three or four years old and is very shy. Mother has noticed these symptoms for several years but the child has not been under treatment. Her skin is of a brownish-yellow color, and her hands are spade-shaped. There is slight improvement since she has been taking treatment.

The thyroid gland did not appear to be present in any except the goiter cases.

Three other cases which I have seen, two girls and a boy, all under two years of age, have been lost track of and cannot be found.

Since reading his paper I have seen two more cases:

Case XV.—Eva P., aged twenty-two years (March, 1905). Family history: Father and mother first cousins. Four other children, all well. Personal history: Height now 40½ inches, weight 50 pounds, pulse 52 to the minute, cold

extremities, waddling gait, yellow, edematous, wrinkled skin, large head and abdomen, eyes far apart, broad nose depressed at base, turned up at tip; very affectionate but shy; idiotic; only says a few words; never goes out of the house. Very short extremities. Fatty tumors in supraclavicular region. First teeth at five years. Could walk a little by holding on to a chair when ten years of age, and could say a few words at that time. Has never been on thyroid treatment except for the first two years.

Case XVI.—Julius B., aged five months (April 20, 1905). Family history: Second child, first child normal and well. Personal history: Child small at birth and does not weigh any more now than he did then. Mother noticed shortly after birth that the child's skin was very yellow and wrinkled like that of an old man. The skin was very loose upon the body, extremities short, nose stubbed and flat, eyes far apart, lips thick, tongue large and slightly protruding; child had difficulty in nursing on account of the size of the tongue. These symptoms have become steadily worse, the child takes not interest in its surroundings, has a cold most of the time and the extremities are always cold; was never known to smile; hair is coarse and scant and scalp is scaly and seborrheic. Fatty tumors in supraclavicular region.

This is evidently a congenital case.

MEDICAL PROGRESS.

SURGERY.

Conservative Treatment of Protracted Cases of Acute Otitis Media Purulenta, with its Complications.

—A. WIENER (*Med. Rec.*, April 8, 1905) expresses the view that the modern tendency is to be overhasty in performing radical mastoid operations in acute otitis media, and describes six cases in which paracentesis of the membrane and careful treatment served to render more severe measures unnecessary. The author makes a free incision through the posterior superior portion of the canal and the entire posterior portion of the drum, using a sickle-shaped knife for the purpose. All pent up secretion is immediately blown out with the Politzer, and the parts are then most carefully wiped out with absorbent cotton until the ear is as clean as it is possible to make it. A drain of iodoform gauze wet with a 10 per cent. solution of liquor Burowii is inserted, and an occlusive wet dressing of the same solution is placed over the entire ear. Attention to the general powers of resistance by suitable measures is most important.

Treatment of Pyelitis.—H. A. KELLY (*Med. Rec.*, April 8, 1905) points out the great importance of recognizing and treating early and mild cases of pyelitis so that the disease may be checked before it has progressed to a serious degree requiring radical operations. The following practical deductions are offered: (1) It is important to take cognizance of a pyelitis of any grade whatever, as it may at any time become a menace to the functional value of the kidney, or even to life itself. (2) The severer grades of the affection are often the sequels of a milder pyelitis of long standing. (3) The first step in the investigation is to determine the extent of the affection by estimating the amount of pus in the urine and the relative number of

organisms. (4) It is important to determine the cause of the infection, which is often of a mechanical nature, and therefore easily relieved. (5) By removing the cause the disease may either be cured or so far benefited that a subsequent complete relief by means of local treatments is easily brought about. (6) The milder forms are best treated by rest, abundant water, urotropin. (7) If there is not a speedy improvement, the next simplest plan of treatment is the catheterization of the kidney every two to four days for the purpose of evacuation, distention of the pelvis, irrigation and instillation. Boric acid and nitrate of silver are the best drugs in this connection. (8) Improvement should be measured by the disappearance of pus from the urine and the diminution in the organisms, taking, say, three platinum loops as the measure in conveying the infected urine to the agar. (9) A patient improved but not cured (complete absence of bacteria) should be watched in the intervals of treatment and guarded with especial care in case of any intercurrent disease. Should such a disease supervene, urotropin is a good prophylactic. (10) The severer forms of the disease may be treated by irrigation, which often brings great temporary relief. As a rule, however, the kidney must be opened and drained; if it has been extensively diseased, remove it.

Anesthesia by Water Injection.—J. RAWSON PENNINGTON (*Journal A. M. A.*, April 8), in selected cases, has used normal salt solution and sterile water for local analgesia in minor rectal operations. Following the suggestion of Heinze, of Dresden, he has used normal salt solution instead of pure water to avoid the irritation sometimes caused by the latter. In some cases he has added eucain lactate and adrenalin to intensify and to prolong the analgesia. He also had tests made to determine the influence of such solutions on normal tissues, and finds that when isotonic with the blood the best effects are produced. He gives a formula and method of making up the solutions. He has employed them in operations for various types of hemorrhoids, polypi, anal prolapse, fissure, fistula, ulcerations, abscesses, sacral dermoids, lipomas, condyloma and secondary operations for colostomy. He has operated altogether in about 75 cases with local analgesia, and the pain has been usually less than under general anesthesia. He considers the method described as a valuable advance, enabling patients to receive treatment at home or at the physician's office in many cases and without interruption to ordinary occupations and business, instead of going to a hospital, being laid up and losing many days or even weeks of time.

Enterostomy.—J. W. LONG (*Am. Med.*, April 8, 1905) maintains the following important measures are accomplished by enterostomy: (1) Drainage of gas and feces from the intestines. (2) Relief of distention, pain, vomiting and toxemia in mechanical obstruction. (3) Depletion of the inflamed bowel and peritoneum in septic conditions; the intestinal paralysis and sepsis are also overcome. (4) Protection to the peritoneum, as in typhoid perforation. (5) Nourishment to the patient by making an artificial mouth. The author considers the subject under these heads and concludes enterostomy is always a life-saving measure, never in operation of choice. It is never indicated when a more ideal surgical procedure is feasible. In the hands of an experienced, carefully trained abdominal surgeon, capable of dealing with grave emergencies, an enterostomy is rarely resorted to; but the better the surgeon the more quickly will he adopt any measure that will rescue his patient. Every abdominal surgeon finds cases in which only on enterostomy can with propriety

be done. When an enterostomy is indicated, to hesitate is to lose your patient, therefore operation should be done promptly, dexterously and with celerity. Dr. Long reports eight cases occurring in his own practice with five recoveries.

Appendicitis.—CHANNING W. BARRETT (*Journal A. M. A.*, April 15) has analyzed the vital statistics of Chicago for the last fourteen years with special reference to appendicitis. He finds that it causes about one per cent. of the mortality from all causes. The first consideration is an early diagnosis. All troublesome appendices should be removed without waiting for an acute attack, and all acute cases should be operated on without waiting for pus, rupture, adhesions or a possible interval. Perforation or gangrene with localized abscess should be operated on with drainage or removal of the appendix, according to the judgment of the operator, and operation is the more necessary if there is no walling off of the abscess. Acute appendicitis should be operated on whenever the patient's condition permits, unless he is clearly convalescing. In that case wait till the acute symptoms are over. Healthy appendices should be left alone. The above counsel does not contraindicate rest, stomach lavage or the withholding of food, any of which measures can be employed as needed with or without operation. Lastly, life is not the only question; time and after-conditions are also important. Adhesions may be temporarily life-saving and later deadly. The waiting treatment favors them. After operation the patient is usually up in from ten days to three weeks. The rest treatment takes a much longer period of time.

Abdominal Tuberculosis.—W. J. MAYO, from his extensive experience with abdominal operations, of which about three per cent. were due to some form of tuberculosis, finds that tuberculous peritonitis is much more frequent in females than in males, and that the explanation of this fact may be found in the frequency of tubal infection (*Journal A. M. A.*, April 15). He has verified Murphy's observation of the patency and thickening of the tubes on one or both sides in these cases. In nearly all the peritoneal involvement was greatest near the infected tube, and this he attributes to proximity and not to gravity, as has generally been done. He explains the curative effect of laparotomy in these cases as acting in two ways: First, by the mechanical separation of the fimbriated extremity of the tube from the surrounding tissue; and second, after removal of the fluid, contact and adhesions with neighboring structures may wall off the infection from the general peritoneal cavity and enable nature to exert itself on a limited focus and to produce a cure. In some cases he has found appendiceal and not tubal infection as the cause. In the majority of cases, however, the localized focus of lupus of the tubal mucosa was the cause. He holds that the failure of laparotomy and evacuation of fluid in tuberculous peritonitis is due to reinfection from local lesions not removed, and in the mucosa of the Fallopian tube, appendix or intestinal tract. In nearly every case the peritonitis has its origin in a local focus, primary or secondary, and, if the former, radical operation will largely increase the chances of its cure.

MEDICINE.

Elimination of Typhoid.—A. ROBIN (*Journal A. M. A.*, April 8) holds that, while bacteriologic proof is lacking in the chain of evidence connecting typhoid with a polluted water supply, there is yet abundant clinical and epidemiologic evidence of this relation. It is a striking fact, however, that even artesian well water

seems to be among the possible polluted sources. That the infection is avoidable is amply shown by European and American experience. He goes at length into the prophylaxis of typhoid and shows that domestic methods, except boiling water, which is often only sporadically employed, are greatly ineffective. Even the best domestic filters—the Pasteur and the Chamberland—require frequent cleansing and sterilizing to keep them in good condition. The use of unboiled water to cleanse foods that are eaten raw, and the milk supply are also to be held accountable for infection. Municipal prophylaxis may also be defective, especially if mechanical filters are employed, and he illustrates this by a comparison of the typhoid death rates of Wilmington, Del., which is thus supplied, and that of Lawrence, Mass., where the better plan of slow sand infiltration is in use. There should also be laws preventing the discharge of raw sewage into streams which supply the drinking water of towns. For the purification of sewage he believes the septic tank method promises the best results.

Variola.—W. T. HOWARD, JR., (*Journal A. M. A.*, April 8) has followed up the study of the organism found by Councilman, McGrath, Brinkerhoff and Tyzzer in variola and its life cycle. He finds that these bodies in their various stages are constantly present in the skin lesions of vaccinia and variola, and gives the technic of their study. Zenker's fluid is the only fixative that is satisfactory, and it is important that the section should be made so as to include the whole thickness of the skin. Mallory's is the best methylene blue eosin stain for these bodies, but other methods, such as that of Borrel and Weigert's fibrin stain, preceded by carmine, may be used. The bodies stain brilliantly, and with a good light and an oil immersion lens, should be easily recognized in properly prepared specimens. In the latter stages of the disorder the Borrel stain is best. A second cytoplasmic stage recognized by Howard and Perkins is found only in well-established variola visicles, never in vaccinia, so far as known. The other stages are the intranuclear ones, already described by Calkins, with the exception of one which was not found by Howard, and which appears in the later stages of the eruption. It is useless to look for cytoplasmic forms (excepting in local autoinfections) in late lesions or for the intranuclear forms in early ones. The importance of these findings is in the service they may render in the early diagnosis of variola and vaccinia. Howard believes that this can be made in doubtful cases with the result of cutting short variola epidemics in their beginnings.

Tropical Amebiasis.—W. E. MUSGRAVE (*Journal A. M. A.*, April 8) gives the results of his experience with tropical amebic dysentery in Manila, where it causes more than 50 per cent. of the invalidism of public, and especially of civil, employees. In the military service there is a smaller percentage on account of the stricter regulations and the medical oversight. The use of cold drinks, and especially of ices containing encysted amebæ, is specially dangerous. Fresh vegetables are responsible for some cases, and others come from lack of cleanliness of the hands. He condemns the tendency to routine treatment. Acute cases should be kept in bed, on fluid diet, pain being controlled by opiates or by local applications; calomel and salines and enemas are useful. After the acute symptoms subside, strict confinement is no longer required, because the patient usually can be treated at home and can have the benefit of carefully directed moderate exercise. Musgrave advises a liberal diet, except where there is disturbance of the stomach and the small intestine.

While change of climate is desirable, especially in old, obstinate and emaciated cases, it should be preceded and followed by careful local treatment. He thinks that the routine use of bismuth has worked harm, at least in a negative way, by interfering with the effects of other drugs. Ipecac, as sometimes prescribed, is apt to be dangerous, but in small doses it may act beneficially. Salines should be used with caution for catharsis only. Musgrave favors the hydrochloric acid and pepsin combinations. Strychnine, while a valuable general tonic, is too stimulating to the bowels to be used simultaneously with enemas. Local treatment is important, and he goes at length into the directions for the administration of injections. The various salts of quinin have been the most satisfactory agents in this method of treatment. There is little choice, apparently, between the different salts, but the solution should be an acid one and of a strength from $\frac{1}{1,000}$ to $\frac{1}{100}$. An acid solution of acetozone, $\frac{1}{1,000}$ to $\frac{1}{2,000}$ in combination, or alternating with the quinin solution in some cases has given good results. Musgrave cautions against routine methods of local treatment, and insists on treatment being adapted to the special case and, at first, on its being conducted directly under the physician's supervision. In concluding his paper he notices at some length appendiceal amebiasis. Appendicitis may occur either independently of the amebic affection or as a continuation, by contiguity, of the structures. In a minority of these latter cases operation may be performed but more frequently the surgeon will find a gangrenous cecum and will increase his mortality rate. Generally the symptoms are due to involvement of the cecum without amebic involvement of the appendix.

Etiology of Enlarged Prostate.—L. B. BANGS (*Med. Rec.*, April 8, 1905) considers that hypertrophy of the prostate is of inflammatory origin, and that the French view that the enlargement of the gland is a senile process due to general arteriosclerosis has been disproven. The inflammatory theory appears to be the one which accounts for the onset of this malady, which explains the changes in the gland, and which has the most and the strongest evidence in support of it. According to histological examinations, the point of origin seems to be in the prostatic urethra, extending thence along the gland ducts from the urethra toward the periphery of the prostate, the round-celled infiltration being most marked in the vicinity of the verumontanum in accord with the clinical observation that excessive sensibility and congestion of this region are very often noted in individuals who have practised some form of sexual irregularity. Hypertrophy of the prostate is not a senile disease, but begins in early manhood and is dependent on unphysiological sexual life leading to abnormal hyperemia of the gland. A careful analysis of the histories of three hundred patients of all ranks having unmistakable enlargement showed that over 85 per cent. were subjects of abnormal or unphysiological sexual indulgences which were excessive in degree and continued for years. In the 15 per cent. remaining the primary prostatic congestion was apparently due to a disarrangement of the portal circulation. Gonorrhea alone is not sufficient to produce the malady. The following prophylactic rules are given: (1) Sexual instruction in boyhood; (2) chastity in youth; (3) sexual self-restraint in early manhood, and (4) the physiological sexual relations in the married state.

Researches in Hemophilia.—H. SAHLI (*Zeitsch. f. klin. Med.*, Vol. 65, Nos. 3 and 4) had the rare luck to observe four typical cases of hemophilia and to study the peculiarities of the blood in this strange disorder. According to some, the condition is due to high blood-

pressure, but this is improbable, since diseases commonly associated with high blood-pressure, such as chronic nephritis, do not usually run with hemophilic symptoms. In the author's cases, the figures obtained with the Riva-Rocci instrument, were normal or below normal. Microscopical examination of the blood, showed only a moderate, relative diminution of polymuclear leucocytes, with relative increase of lymphocytes. The absolute number of leucocytes was normal or diminished. In two cases, the platelets were also counted repeatedly, but their number was never above normal. The alkalinity of the blood, the dry residue of the serum, the depression of the freezing point and the amount of fibrin in the blood, were not altered. The time of coagulation was estimated most carefully and it was found that in the intervals between the hemorrhages, clotting was much delayed, but normal or even hastened, during severe bleeding. The following, new method was employed: A column of blood, about one centimeter high, is allowed to flow into a capillary pipette, one to two millimeters in diameter. An absolutely clean, white strand of horse-hair is then passed into the blood, and drawn out a short distance every half to one minute. If the hair has been carefully deprived of all grease, no blood will adhere to it at first, but as soon as coagulation has set in, the withdrawn section will no longer appear white, but red. The rapid clotting during bleeding, despite continued hemorrhage, is probably due to an abnormal quality of the vessel walls. Under normal condition, the latter probably furnish certain substances necessary for the production of fibrin-ferment (thrombo-kinase) locally at the site of injury, so that a clot will soon obstruct the opening in the vessel. During hemophilia, the torn edges of the vessel do not supply the blood with this substance, hence no local clot forms. The imperfect clotting during the intervals is due to a similar deficiency on the part of the blood cells and the hematopoietic apparatus. Chemical changes in the vessel-walls will also explain the occurrence of spontaneous hemorrhages and the reported cases of hemophilia of single organs (Senator's renal hemophilia). Very little can be done for the disease, except to improve the general constitution. The local hemorrhages are best controlled with compression, gelatin and adrenalin, but the latter two drugs should never be injected subcutaneously. It is not likely that the local application of thrombokinase will do much good. There is as yet no drug from which good results can be expected on internal administration.

Bronchopneumonia Complicating Measles.—CHARLES F. CRAIG (*Journal A. M. A.*, April 15) reports the findings in cases of bronchopneumonia occurring in an epidemic of measles at one of the United States army posts in California, the patients being sent to the hospital at San Francisco for treatment. Out of 89 cases, bronchopneumonia developed in 12 (13 per cent.), and ten patients died. From a summary of the macroscopic and microscopic changes of the necrotic areas in the lungs, liver, spleen and kidneys, it was evident that the infection was of a septic character, causing hemorrhages in all the organs, areas of focal necrosis, hyaline degeneration, empyema and abscess formation in the lungs, kidney and spleen, and the occurrence of large numbers of lymphoid cells in the capillaries of the liver and the kidney and in the air vesicles of the lungs. He believes that this epidemic complicating measles and with so high a mortality was due to secondary infection of the diseased mucous membrane of the respiratory tract by streptococci, causing pyemic infection due to those organisms.

The Blood Changes in Pneumonia.—In blood cultures from 175 cases of lobar pneumonia, E. C. ROSENOW (*Journal A. M. A.*, March 18), found pneumococci in all but 15. In 11 of the 15 cases the second culture was not possible. In the other 4, repeated cultures failed, though in one careful search of the smears directly from the blood revealed pneumococci. Leucocytosis was high in all four, and he was inclined at first to suspect a phagocytic action, but later research showed that the negative cultures were made later in the disease, thus indicating a diminution in number or viability, or both, of the pneumococci at the time of crisis. ROSENOW does not seem to consider the blood cultures of great prognostic value in this disease, though he says, other things being equal, a high leucocytosis appears to be a favorable sign rather than otherwise. The agglutination test of the pneumococci he does not think of much practical value. The point he considers of most importance is the reaction changes; a well-marked acid reaction associated with a voluminous sediment appearing in cultures of pneumococci in pneumonic and not in normal serum. He asks, in view of this fact, whether some of the symptoms of pneumonia may not be due to an acid intoxication of the system, and, in support of this theory, he adduces experiments which have been made with the alkaline treatment for a year past in Dr. Frank Billings' clinic, in the Presbyterian Hospital. From one to three drams of sodium bicarbonate in at least four ounces of water were given by the mouth or in still larger doses by the rectum. No other treatment was employed except heart tonics, catharsis or venesection whenever required, which was seldom. Judging from the result this alkaline treatment seems rational.

Present Status of Blood Examination in Surgical Diagnosis.—F. SONDERN (*Med. Rec.*, March 25, 1905) states that the differential leucocyte count offers a better guide to the status of an inflammatory process than the absolute leucocytosis. Three distinct blood pictures may occur in inflammatory lesions. First, a relative percentage of polynuclear cells below 70, with an inflammatory leucocytosis of any degree, excludes the presence of pus at the time the blood examination is made, and usually indicates good body resistance toward infection. Second, an increased relative percentage of polynuclear cells, with little or no inflammatory process and the percentage is a direct guide to the severity of the infection. Third, an increased relative percentage of polynuclear cells with a decided inflammatory leucocytosis. Here the percentage of polynuclear cells is an accurate guide to the status of the inflammatory lesion. Iodophilia is less reliable as a test of the presence of suppuration than is the differential count.

Some Chinese Medicines.—S. SYNGE (*Dublin Jour. of Med. Sci.*, March, 1905) gives an interesting account of many absurd beliefs recorded in the Chinese *Materia Medica* and points out the great need of a new system. Sulphate of iron is said to go at once to the liver and gall-bladder and is good when the liver is inflamed; it is also good for cough, epilepsy, hematuria and for norms in a tooth. The iron sulphate is said to be obtained from copper pits and to be the fluid part of the copper, thus enabling it to go to the liver. The color of the best preparation should resemble the inside of the mouth of a green frog. The human placenta is listed among the medicines and is said to cure weakness, thinness, wasting diseases, madness and epilepsy. The placenta should be taken from a healthy primipara washed in a running brook, then boiled, after which it may be toasted and powdered, or

eaten after the boiling with rice. Powdered tiger bones are thought to give strength. The urine obtained from the white horse, the ass and children is given in fevers. Another absurdity recorded is that when a placenta does not come away it goes up into the woman's chest and suffocates her. It is also believed that the milk comes into a mother's breast with the incoming of the tide.

Gonococcus Infections in Children, with Especial Reference to their Prevalence in Institutions and Means of Prevention.—In reference to the often widespread gonococcus infections in children which are sometimes seen occurring in wards of hospitals and occasionally in private practice, L. EMMERT HOLZ (*N. Y. Med. Jour. and Phila. Med. Jour.*, March 25, 1905) draws the following conclusions: (1) We must recognize gonococcus vaginitis as a very frequent disease and one to be constantly reckoned with in institutions for children. It is also very frequent in dispensary and tenement practice and not uncommon in private practice of the better sort. (2) In its milder forms and sporadic cases it is extremely annoying because so intractable; in its severe form it may be dangerous to life through setting up an acute gonococcus pyemia or infection of the serous membranes, and in its epidemic form it is a veritable scourge in an institution. (3) The highly contagious character of gonococcus vaginitis makes it imperative that children suffering from it should not remain in the same wards or dormitories with other children. A similar danger, though less in degree, exists with the gonococcus ophthalmia and acute gonococcus arthritis or pyemia. (4) It is practically impossible to prevent the spreading of the disease if infected children remain in the wards with others. They must either be excluded from the hospital or, if admitted, immediately quarantined. (5) Cases of gonococcus vaginitis can only be excluded from hospital wards by the systematic microscopical examination of smears from the vaginal secretion of every child admitted. If a purulent vaginal discharge is present, such examinations are imperative and should be made as much a matter of hospital routine as the taking of throat cultures in children with tonsillar exudates. In the absence of microscopical examinations a purulent discharge in a young child may be assumed to be due to the gonococcus. (6) The quarantine to be effective must extend to nurses and attendants as well as to children. Furthermore, the napkins, bedding, and other clothing of infected children, must be washed separately from that of the rest of the house. (7) Where the gonococcus is found with no vaginal discharge or with a very slight discharge, children should also be quarantined, although it is impossible at present to say to what degree such cases may be dangerous in a ward. One of the greatest difficulties in connection with the gonococcus vaginitis arises from the prolonged quarantine rendered necessary from the fact that these cases are of very chronic character and very resistant to treatment. (8) The danger to nurses from accidental infection, especially in the eyes, is considerable. At the present time they are not sufficiently instructed in this respect.

PATHOLOGY AND BACTERIOLOGY.

Chemistry of Blood.—K. v. RZENTKOWSKI (*Virchow's Archiv*, Vol. 179, No. 3) gives the following average figures for normal blood: Dry residue, 21.23 per cent; total nitrogen, 3.52 volume per cent; residual nitrogen (nitrogen left after removing albumin), 0.047 volume per cent. In acute and chronic infections and in anemia, the blood may be considerably diluted. In

nephritis, the dilution reaches its maximum during the enemic state. Typical cases of fibrinous pneumonia show an increase of residual nitrogen probably due to the autolysis of the pulmonary exudate. The residual nitrogen is also increased in nephritis, particularly in uremia. Inspissation of the blood is noticed in dyspnoic conditions, such as pulmonary emphysema, and effects chiefly the dry residue and total nitrogen. Edema due to nephritis is accompanied by dilution, edema due to lack of cardiac compensation, by inspissation. Serous exudates are blood-serum altered by the endothelial cells, while transudates in statu nascendi are merely aqueous solutions of mineral salts, the albumin being added subsequently within the serous cavities.

Experimental Measles.—A demonstration of the fact that the virus of measles may be obtained from the blood of patients affected with that disease, was performed by LUDWIG HEKTOEN (*Jour. of Infect. Dis.*, March 1, 1905), who in two cases was able to inoculate other persons with this virus and produce the disease after a number of days. The virus of measles is present in the blood of patients with typical measles sometime at least during the first thirty hours of the eruption. The virus retains its virulence for at least twenty-four hours when such blood is inoculated into ascites-broth and kept at 37° C.

The Opsonic Action of Blood Serum.—It was Prof. A. E. Wright who discovered that the white blood corpuscles are alone not able to destroy bacteria, but that these must first be rendered vulnerable by certain substances present in the blood-serum, which he termed opsonin, from the Greek word "opsono"—"I cater for." A series of further researches in these bodies by W. BULLOCK and E. E. ATKIN (*Proc. Royal Soc.*, February 24, 1905) reveal that opsonin is present in the normal serum, that it is thermolabile, and rapidly disappears from the serum when the latter is mixed with bacteria at 37° C. or at 0° C. After the opsonin has united with the bacteria the mixture of serum and cocci can be heated to 60° C. for long periods without abolition of the opsonic effect. The leucocyte is practically an indifferent factor when the phagocytic power of different bloods is compared. The capacity of bacterial emulsions for extracting opsonin from the serum is only slightly diminished by subjecting these emulsions to very high temperatures over long periods. The action of heat is to destroy the opsonin, and not merely to convert it into a non-opsonisable modification. The opsonin is not identical with any of the antibodies hitherto discovered in the serum. The opsonin is of relatively simple constitution.

Properties of Mast-Cells.—According to D. FAHR (*Virchow's Archiv.*, Vol. 179, No. 3), the mast-cells behave in many respects like polynuclear leucocytes. Like the phagocytes, they will exhibit a negative chemotaxis toward all bacteria and toxins which are virulent for the animal experimented upon. In case of non-virulent microbes and toxins, a negative chemotaxis is not observed. On the whole, the mast-cells react more readily than the other leucocytes, for they will exhibit negative chemotaxis if the animal is already immunized against the germ.

Development of Peritoneal Tuberculosis.—Tubercle bacilli may reach the peritoneal cavity in two ways: as a result of rupture of a tuberculous focus near the serosa or indirectly by way of the lymphatics from organs of the abdominal cavity, or through the perforating lymph-tracts of the diaphragm from the pleura. The bacilli will become implanted by preference where intestinal peristalsis does not disturb the development of the tubercle (retro-uterine and utero-vesical plica,

upper surface of the liver, lower surface of the diaphragm and anterior surface of the spleen). This implantation tuberculosis is characterized by its superficial position. G. GUYOT (*Virchow's Archiv.*, Vol. 179, No. 3) recognized two forms: confluent granulations, and discreet conglomerate tubercles. The latter frequently possess a pedicle. Implantation tuberculosis differs from the ordinary tuberculosis by its extensive vascularization and by the polymorphism of its elements. The endothelial cells lining the peritoneum are not implicated in the process since the new tissue is made up chiefly of emigrated cells.

Relation of Human to Bovine Tuberculosis.—A valuable contribution to the relation of human to bovine tuberculosis is contained in the article of F. KLEMPERER (*Zeitsch. f. klin. Med.*, Vol. 56, Nos. 3 and 4). A number of tuberculous cows were infected with human tubercle bacilli to determine if these would induce any inhibitory action upon the disease. The process was already too far advanced to permit of any conclusion, but when healthy animals were first infected with bovine tuberculosis and later with human tuberculosis, a decided immunizing effect was seen. The entire theory of immunization in tuberculosis has been modified considerably of late, for while Koch first employed the extract of dead bacilli and later the disintegrated, dead bacilli, themselves, the tendency at present is to employ live bacilli of some other species, which prove only slight virulent or avirulent for the animal experimented upon (bacilli from turtles for guinea-pigs, etc.). There can be no question that bovine bacilli, introduced by way of the intestinal tract during infancy, may infect human beings, but the author could demonstrate on himself that they are harmless if infected under the skin. An emulsion of 0.25 c.c. of live bovine bacilli caused some local disturbance, but no general symptoms. A small tumor remained at the site of inoculation which was excised after ten months and was found to consist solely of harmless granulation tissue. Tuberculous individuals were then treated with injections of live bovine tubercle bacilli, and in all some improvement set in, usually after a slight local reaction. The question of immunizing healthy individuals could not be settled, but for the treatment of the very earliest stages of consumption, the injections seem strongly indicated.

Bacteriology of Scarlatina.—A full résumé of the various bacteria which have been found in the different organs of scarlet-fever patients, and which are supposed to play an etiological rôle, is given by G. JOCHMANN (*Zeitsch. f. klin. Med.*, Vol. 56, Nos. 3 and 4). It is not probable that the inflammatory hyperemia of the pharynx in the first days of the disease is caused by streptococci, since the deeper layers of the tissues and lymphatic swellings in other parts of the body, never contain these germs. The white masses in the tonsillar crypts usually show a large number of streptococci and staphylo-cocci and the diphtheria bacilli are not rarely the cause of severe necrosis. Wherever streptococci cause necrosis, the formation of fibrin, so characteristic for diphtheria, is absent. At present it is generally conceded that diphtheria bacilli are merely an accidental, secondary infection and have nothing to do with the scarlatinal process proper, but that streptococci, while not necessarily the cause of the disease, are certainly responsible for most cases of pharyngeal necrosis. In rare cases, the germs characteristic for Vincent's angina, and the proteus bacillus, have been found in the throat. The appearance of the tongue is strictly pathognomonic for scarlet and is not seen in diphtheria or streptococcus infection of any kind. The nose is

frequently the seat of streptococci and in the ears, these germs, either alone or with staphylococci, pneumococci or proteus, may be detected, if inflammation is present. Complications on part of the eyes are almost always due to streptococci and in the lungs, streptococci, staphylo- or pneumo-cocci, or influenza bacilli may be found. Almost all the other organs, if diseased, harbor streptococci. Culture taken from the blood post mortem are often, but not always positive. Intravital cultures were positive in 25 out of 161 cases, if made after the third day of the disease; before this time most attempts to grow bacteria out of the blood were negative. The positive causes were usually seriously ill, with marked symptoms of intoxication. Streptococci isolated from scarlet cases have been carefully studied by many competent observers and there can be no doubt that they are in every way identical with the ordinary pyogenic streptococci. The following reasons may be given why scarlet fever is not merely a streptococcus infection, even though the germ occurs so frequently in the blood and organs: Streptococci are found very often in other diseases (measles, diphtheria), especially in the throat, and yet the symptoms are different. It cannot be merely a matter of predisposition; for if a scarlatina case is accidentally placed in the diphtheria ward, many of the patients will become infected, showing that some new, specific virus has been added. Recovery after scarlet fever is regularly followed by a certain degree of immunity which is never seen in diseases caused by streptococci (erysipelas, wound-infection). Here on the contrary, recurrences are the rule. With the present state of our knowledge, the conclusion is justified, that the cause of scarlet fever is an unknown virus, which renders the body particularly susceptible to secondary streptococcus invasion.

The Clinical Use of the Antistreptococcus Serum.—The necessary indications for the administration of this remedy are summarized by F. MEYER (*Berl. klin. Woch.*, February 20, 1905), as follows: For administration in the human subject, only a thoroughly tested serum should be employed and this standardizing should be done by some central authority who should use for the purpose a culture derived from human sources. With these the producer of the serum must have had absolutely nothing to do. The practitioner who employs the serum must be thoroughly well informed in regard to the mode of action of this remedy, so that the indications and contra-indications may be definitely recognized. Treatment with the streptococcus must not be regarded as last resort, but rather as prophylactic measure. The author discusses in detail the results obtained with his own serum in a large number of cases. He divides the latter into two groups, in one of which a prophylactic effect is desired, in the other, a curative. In the first may be included the various malignant forms of angina, erysipelas, scarlatina, and puerperal septic endometritis; in the second, the various forms of sepsis. The effect of a successful serum injection is not manifested for twelve to twenty hours, and reaches its maximum in twenty-four hours. The morning temperature is therefore more apt to show the effects of the serum than the evening temperature, if the injection has been made the previous evening. The most noticeable effect is the reduction in temperature, which is accompanied by a more or less profuse perspiration. But before this, the influence on pulse and respiration is already marked, the patient becomes quieter and breathes easier. This sedative action is especially well marked in septic puerperal cases. For the special indications in the various disease already noted, it is necessary to refer to the original article.

Prognostic Value of the Diaro Reaction.—It is now more than twenty years since this original reaction was described by Ehrlich. J. D. ROLLESTON (*Lancet*, February 4, 1905) states that the greatest certainty of Widal's test has tended to throw the older reaction into the shade. The use of the latter, particularly as regards prognosis having been disregarded. The present contribution is based on observations made on 65 cases of enteric fever. A positive reaction in enteric fever is first obtained about the fourth day of the disease. It tends to disappear by the end of the second, or in the course of the third week. Persistence beyond that period occurs only in severe cases and in spite of a fall of the temperature indicates that the infectious process is still active and that a recrudescence or relapse is eminent. The reaction in all but severe attacks tends to disappear in the second or third week; this disappearance shortly preceding or coinciding with the commencement of lysis. A sudden disappearance of the reaction associated with a deterioration of the general condition is a bad omen.

Is the Common House Fly a Factor in the Spread of Tuberculosis?—J. O. COBB (*Am. Med.*, March 25, 1905) draws attention to the fact that several observers have demonstrated that the fly carries tubercle bacilli on its feet and in its stomach. This being true it must be a dangerous source of infection among the poor where the food is left exposed to contamination by flies. He believes it to be the most common source of infection. Data collected from all parts of the world, prove that wherever people have tuberculosis they also have the fly as a pest. He insists that special effort should be directed to the destruction of all sputum, thus removing the sources of infection rather than to the roundabout way of trying to build up bodily resistance.

Identification of Pseudodiphtheria Bacilli.—Morphologically and biologically the pseudodiphtheria bacillus usually resembles the diphtheria bacillus so closely that many authors are inclined to believe it a non-virulent form of the latter or else assume a certain amount of immune substances normally present in the blood of the patient which prevents intoxication. The communication of E. SAUL (*Münch. med. Woch.*, March 7, 1905) must be regarded as a valuable contribution, since it enables a differentiation, though the method is somewhat tedious. The author looks upon an entire colony as a unit and studies its structure by means of serial sections. The diphtheria "plant" consists of a central trunk which narrows at each end; numerous branches are given off from the sides and still finer twigs come off from these. The pseudodiphtheria plant, on the other hand, consists of a trunk of equal width throughout, while at the ends, dichotomous division is often seen. There are many variations, showing that there are many varieties of the latter bacillus.

THERAPEUTICS.

Ocean Bathing.—PHILIP MARVEL (*Journal A. M. A.*, April 8) calls attention to the effects of ocean bathing. Sea water is really a mineral water containing large quantities of salts in solution. He calls attention also to the effects of temperature; to the depression of the system due to long exposure in cold water, showing itself by a drop of from one to two degrees of body temperature and in lessening of the pulse rate from fifteen to twenty beats. If after a bath there is a general glow of the surface succeeded by a pleasing warmth internally and accompanied by a sense of general invigoration the effect is salutary. If, on the other hand, there is chilliness, depression and languor, the reverse is the case. In his opinion, ocean bathing, as carried

on in the Atlantic coast resorts, does more harm than good, and physicians should warn patients of the dangers of too long immersions and of exposure in wet clothes on the sand. The practice of promenading the beach in scanty and wet clothing after a long exposure in the surf is to be condemned. An important feature in sea bathing is the impact of the waves on the body, and to this may be added the thermic stimulation of the cold, the chemical irritation of the salt and the mechanical effect of the forced activity, all producing a combination of the stimulating influence of a brine bath at low temperature with the effect of a stimulating hydrotherapeutic procedure. These effects are admirable for stimulating functional activity in weakened conditions in which normal metabolism is inhibited or in which a condition of perverted nutrition exists, as in some functional disturbances of long standing. Sea bathing is contraindicated, however, wherever there is weakening or loss of elasticity of the arteries, organic heart disease, recent rheumatism, cholelithiasis, acute gastro-intestinal or febrile disease, or in any condition where the normal resistance is so reduced that it is necessary to guard the patient's forces.

Abdominal Massage.—Cases which give the best results may be grouped as follows: Those associated with abnormal fat formation in persons of sedentary habits; abdominal plethora; chronic catarrhal conditions of the intestinal mucosa; disturbances of innervation in otherwise healthy persons. R. LAUER (*Maryl. Med. Jour.*, April, 1905) says that the masseur does well to warn the patient that some soreness of the muscles is to be expected after the first treatment. Greasing the abdominal wall is superfluous. The patient should be stretched out at full length facing the masseur. **Maneuver 1.**—The palmar surface of the left hand is placed over the umbilicus and semicircular movements are made from left to right and from right to left. **Maneuver 2** consists in making a series of half circles with both hands over the course of the colon. **Maneuver 3** consists in kneading the abdomen, using first one hand then the other, the free hand acting as a support to prevent the unpleasant sensation of tearing. **Maneuver 4.**—The radical side of the right hand with thumb abducted, is used performing a cradling motion in a vertical direction. **Maneuver 5.**—The oblique muscles are grasped and strong central pressure exerted, causing shaking movements of the whole abdomen. **Maneuver 6** forms an effective conclusion of the treatment. The left hand is pressed deeply into the pelvis above the symphysis to protect the bladder against disagreeable reflex phenomena. The right hand is placed over the umbilicus and exerts evenly distributed trembling movements with gradually increasing pressure. It should be taken as an indication to cease the maneuvers when the skin of the patient shows signs of moisture.

A Brief Résumé on the Action of some of the Important Somnificants, with Clinical Notes on a New Hypnotic.—In speaking of the use of various hypnotics Dr. A. P. STONER (*N. Y. Med. Jour. and Phila. Med. Jour.*, March 25, 1905) reviews the advantages and disadvantages of the hypnotics in everyday use and tabulates his results obtained over a period of one year with the use of a new hypnotic, which is known as isopral. It is chemically trichlorisopropylalcohol ($\text{CCl}_3\text{—CH} < \begin{smallmatrix} \text{CH}_3 \\ \text{OH} \end{smallmatrix}$). It is a colorless, shining, crystalline powder, slightly soluble in water, and has a burning taste and a characteristic pungent odor. It is more active than chloral, without any of the latter's depressing phenomena upon the respiratory or circulatory

functions. It is best given in capsules or wafers. The best results are obtained in doses of from 0.65 gram to one gram, and it should be taken upon an empty stomach.

Local Anesthesia with Adrenalin-Cocaine.—It has been observed long ago that a part rendered bloodless is much easier narcotized; thus the application of an Esmarch bandage tends to increase the anesthetic property of cocaine injected into the bandaged part. Adrenalin is known for its decided vasoconstrictor effect, and PILETZKY (*Roussky Vrach*, February 25, 1905) used a preparation of the drug with cocaine to enforce the effect of the latter, in the following mixture: To a five per cent. solution of cocaine hydrochlorate there was added a 1 to 1,000 solution of adrenalin in the proportion of two drops to each c.c. of the cocaine solution. The author employed this mixture for local anesthesia in 45 cases, including such as lipoma of the external genital organs, phlegmon, epithelioma of the left cheek, cancer of the lower lip, chronic ascites of the ovary, atheromatous tumors of the forehead, fistula of the lower jaw, and so on. In all of the cases there was induced complete anesthesia, there was an entire absence of any parenchymatous hemorrhage, the anesthetic effect being observed also on the diseased tissues. The author failed to observe any harmful effects of the mixture on the course of healing, nor were there any immediate toxic symptoms, with one exception. Anesthesia began ten minutes after the injection and lasted for almost two hours, thus enabling the operator to stitch up the wound painlessly. In operating in deep tissues it is preferable to use weaker solutions of cocaine but in greater quantity. Some authors advise caution in old people and in children. It is a mistake to assume that local anesthesia may only be employed in so-called minor surgery, for at a recent meeting of Russian surgeons, reports were made of the successful use of local narcosis in such capital operations as hernia, goiter, appendicitis, laryngeal growths, etc.

Best Method of Administering Potassium Iodide.—M. HUENNER (*Med. Rec.*, April 1, 1905) says that this drug should always be given in solution well diluted, and, if possible, never on an empty stomach. Milk is the best diluent. It is essential to have a perfectly pure preparation, as many of the bad effects ascribed to the drug are due to impurities. Strict attention to cleanliness of the skin by daily baths is necessary to prevent the skin eruptions otherwise caused by the decomposition of the iodine excreted with the perspiration by the fatty acids setting free iodine, which acts as an irritant. It is preferable to write for a 50 per cent. solution, of which two drops will equal one grain of the drug, as the 100 per cent. solution is difficult to prepare, and, as usually dispensed, is under strength. Iodide of potassium is incompatible with alkaloids and the ordinary soluble metallic salts. Small doses may produce symptoms of iodism, while larger doses in the same patient may not have this effect. The drug should never be given in phthisis. Special plans of administration are described for syphilis, locomotor ataxia, chronic endarteritis, chronic endocarditis, asthma, nephritis, lead poisoning, rheumatism, neuralgia, etc., and the best methods of giving the drug to children are also indicated.

Endermastic Application of Guaiacol.—Good results in rheumatism and pleurisy have been obtained by D. HECHT (*Munch. med. Woch.*, February 28, 1905) from local applications of guaiacol and salicylic acid (10 per cent. each) dissolved in oil. The pains disappear very rapidly and any fluid present is soon absorbed. After several days the skin will become thick, like parchment, and absorption of the drugs will be less active, hence it is best to apply at some other part of the body.

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SATURDAY, MAY 6, 1905.

THE OSLER DINNER.

ON Tuesday evening, May 2, when some 550 physicians sat down in the banquet hall of the Waldorf-Astoria to the farewell banquet to Dr. William Osler, before his departure to take the chair of Regius Professor of Medicine at Oxford, all of them felt that they were assisting in the making of a notable bit of medical history. They had gathered from all over the United States, even from as far distant as Los Angeles and from Canada, to do honor to the man whom all acknowledged as the most prominent member of the medical profession in America. There was no doubt about the sincerity of the tribute paid, nor of the thoroughly spontaneous character of the feelings displayed, nor of the total absence of any other motive except that of conferring honor where honor is due. It was a notable event and one that shall never be forgotten by those who participated in it, who came away, one and all, with the idea that they had been present at the most important medical celebration of our generation.

We give in our columns this week a full account of the dinner, and can add very little here that would emphasize the significance of the celebration. Men of the caliber of Drs. Shepherd, Wil-

son, Welch, Jacobi and Weir Mitchell expressed in all their fulness the feelings of the American Medical Profession toward the greatest medical teacher of our generation. As they all insisted, it is not the attainments of the man that are honored, but his character. It is not so much for any great discoveries that he has made, but for the stimulating influence he has exercised over all those with whom he came in contact, so that every one saw even the things of his own medical experience clearer for the suggestions he received, that has raised Osler to his enviable position. Better than any medical teacher, he realized and made others realize that trifles make perfection, and though perfection may be no trifle, yet it is the constant care for little things that makes the difference between the ordinary practitioner of medicine and the serious medical clinician.

Professor Osler's career is an example to the medical profession of this beginning twentieth century that it would be too bad to lose any of its forcefulness. He has stood for ideals and ideas in a day when the over sordidly real is only too prone to smother aspirations that are not selfish and material. He has neglected opportunities of making money when this seems to be the one thing necessary in life, the great criterion of success in order to make medicine for this generation and medical teachers for the next. It is all the more to his credit, then, that his professional brethren flock around him on an occasion of this kind and proclaim that he, above all others, has represented their ideal of what the modern medical man should be, and that he has set up a light which will be for a long time to come a guiding star to many in the perplexities of professional life.

In his response to the eulogies of the speaker, Professor Osler thought it necessary to point out one serious defect in the present system of hospital management in this country. When on such an occasion, such a man deems it expedient to utter what would from almost any other could scarcely have seemed but a discordant note, it would be lamentable if the lesson he tried to teach were to be lost. He insisted, as he has often done before, that there are magnificent opportunities for clinical work being wasted in hundreds of hospitals throughout this country. Every town of more than 50,000 inhabitants might have a hospital from which, by proper systematization of the service as important clinical observations might be made as in any of the

smaller university towns in Germany. He did not hesitate to say that if the proper arrangements would be made, our generation might see as much valuable progress in medicine in five years as has ever been done in Germany in ten. For this the hospitals will have to be not the bone of contention of politics, medical or municipal, they will have to be managed by a few men, not many, and the resident staff will have to be on salary, and hold their positions not for a year or two, but for many years, and the teaching of students would constitute one of the most important aims of the hospital.

Here is the opportunity for the medical profession of this country to show that it has really benefited by the teaching of Osler. This is his last will to us Americans before he takes up his work of stimulating English medical students, as he has our own. If the realization of this higher usefulness of our hospitals can be brought about, then indeed would the man, whom all have united to honor, feel that his work was not in vain among us. The task is not so difficult as it seems. It is not near so discouraging as must Osler's own effort to introduce true bedside teaching into America have seemed when he began it some twenty years ago. It needs only a few persistent men to show its feasibility, really only one is necessary, and then the example will do the rest.

Besides the more than half thousand professional brethren who bade farewell to Osler on Tuesday evening, there are 100,000 medical men in this country to whom his name and fame are not unknown, and to most of whom, though he least of all might suspect it, his life as teacher and clinician has been an inspiration. What he has stood for has lifted them up to some extent, at least, above the sordidness of their surroundings. For them would we here, as their representative, bid him farewell and God-speed. Though he deprecates the thought himself, he has well deserved all the tributes that have been paid to him, and his career in America will long remain as a proof to rising generations of what can be accomplished by straightforward unselfish efforts on the part of a man who has refused to lower the standard of his ideals to those of his time, but has, on the contrary, held his aspirations as the only realities of a life to be lived for itself and for personal satisfaction rather than for the illusory rewards that a more strenuous devotion to selfish ends might seem to promise.

THE QUESTION OF SURGICAL CONSENT.

THERE is much current misinformation on the subject of the right of a husband to give or to withhold consent to an operation upon his wife. In many quarters it is customary in such cases to act in accordance with the instructions of the husband, whether or not his views are shared by the patient herself. This undue deference to the wishes of the husband is in part a relic of the time when women occupied in the eyes of the law much the same position as that held to-day by children; in part it is attributable to a desire at all hazards—even at the risk of a patient's life or health—to avoid any dispute with her husband or family that might lead to litigation; and it may be credited in some instances to an erroneous belief concerning the law at present governing the cases under discussion. Many married men have strong but uninformed convictions about their rights in the matter. In the performance of official duties in a large institution we have had occasion to discuss with a large number of husbands the question of operating upon married women, and almost invariably we have encountered the idea that the rights of a married woman are practically negligible and that those of the husband are entitled to serious respect.

The fact is that a husband does not occupy such a position of ownership in relation to his wife that a surgeon is justified in accepting his authorization to perform a surgical operation on her without the consent of the woman herself; nor can the husband legally interfere where the patient's consent has been duly sought and obtained. This interpretation of the law was reiterated recently in a decision by Judge Brown in the Appellate Court of Cook County, Ill. Any other view of the matter could only result in harm to adult female patients who are unfortunate enough to be married to unreasonable and unscrupulous men; unwarranted submission to the will of the husband would, furthermore, lead to neglect of proper treatment, and would thus expose surgeons to innumerable suits for malpractice. It is wise for surgeons to have clear understandings and amicable relations with the husbands of their patients whenever such relations are possible, but the interest of the patient goes above the whim or will of any other person, and this interest will always govern the conduct of the well-informed and conscientious surgeon.

The decision of Judge Brown is not without precedent. A particularly clear statement of the law was made in a case decided in a Maryland

court and frequently quoted in text-books. In this case the surgeon operated for a tumor of the breast which was supposed to be benign, but which proved to be malignant; upon the discovery of the true nature of the growth, amputation of the breast was performed. The husband testified that he supposed the operation was for the purpose of removing an innocent tumor and that he never would have consented to the removal of the entire breast. The court said that "the consent of the wife and not that of the husband was necessary. The professional men whom she had called in were the proper persons to determine what had to be done. They could not of course compel her to submit to an operation, but if she voluntarily submitted to its performance her consent would be presumed."

So far as the consent of the adult patient himself is concerned, it is a general proposition of law that a surgeon must have consent before operating upon a patient. As a matter of fact, however, the courts in this country infer consent to perform an operation from the fact that a patient has voluntarily placed himself under a surgeon's care, and when no express restriction is named before the beginning of an operation, or before the patient is placed under the influence of an anesthetic, the surgeon is justified in performing whatever operation is indicated by the conditions found or arising during the progress of an operation. It is, of course, assumed that the procedure resorted to is not unnecessary and is one which is recognized by the profession as a suitable and proper means for the relief of the condition or danger from which the patient suffers or to which he is exposed; and it is furthermore assumed that the operation will be performed with a reasonable degree of skill. The test of skill applied in those legal decisions which are most frequently consulted is that "there shall be required of the physician and surgeon that amount of knowledge, skill and experience, and the exercise of that degree of care and skill which physicians practising in similar localities ordinarily possess and exercise."

In the case of children requiring surgical operations, it is maintained by some writers that the consent of the parents or guardian is not required, provided the child is of a proper age and discretion to understand the nature and effect of the operation proposed. This is a question which rarely has been considered in the courts of this country; but in the absence of authoritative decisions, it will be wise for surgeons to follow the

practice of the leading hospitals. These institutions, where most of the major surgery is performed, invariably seek the consent of the parents or legal guardian of all minors committed to their care for surgical treatment. In emergency cases, however, where delay would be dangerous and where the parents of the child cannot be reached at once, operations may be performed without waiting for consent, and the surgeon so operating will incur no responsibility beyond that assumed whenever a surgical operation is performed. It is not necessary either for a surgeon to obtain the consent of a patient for the performance of a life-saving operation upon an adult, if the patient is unconscious or delirious when placed in the surgeon's hands.

STATE TREATMENT OF INEBRIATES.

WHAT has well been characterized by a prominent member of the New York Legislature as an "unspeakable bill" is just now in process of presentation to the Assembly at Albany, and is of special interest to physicians.

This bill, while presumably meant to prove a blessing for all those afflicted with dipsomania or any of the drug habits, can scarcely be spoken of as a thinly veiled pretext, since it is an eminently overt procedure for the enrichment of a stock company that has made itself offensively prominent before the public by its advertising methods in recent years. According to the proposed bill, magistrates throughout New York State shall have the privilege of ordering, if they see fit, that all those who are adjudged to be habitual drunkards, or any person who has been convicted of crime considered to have been committed under the influence of liquor, or of some drug addiction, and all those who are inmates of State institutions and are victims of the alcoholic habit or of any drug habit, be required to take the Oppenheimer treatment, the expense of such treatment—fixed at the modest sum of \$25 for each case—it being compulsory for the State to pay.

Probably no more bare-faced attempt at special legislation, calculated to enrich those who are interested in the introduction of the bill, has ever been made. This is, however, only the culmination of a series of methods, much to be deprecated, that have been used by this concern in recent years. We called attention years ago in the *MEDICAL NEWS* to the way in which the public confidence had been abused by the exploiting of the Oppenheimer methods in one of our city institutions, and how, by political influence, the em-

ployment of this treatment has been foisted upon many alcoholic patients in Bellevue. The results obtained at that time were not such as to lead the physicians, who were in a position to judge, to consider that this new therapeutic method represented any distinct advance over remedial measures that had been employed before. As in most publicly exploited medical schemes, the important ingredient in the remedy is printer's ink, which has been used so freely and effectively often through channels that gave it special force and apparent respectability.

The advertising management of the Institute may be commended as absolutely brilliant in conception and Napoleonic in execution. From the very beginning the most prominent clergymen were induced to manifest publicly their interest in the new method of treatment, and allowed their names to be used freely in its approval. We are happy to say that during the last year, since the methods of the concern have become even more flagrant than before, many of the prominent clergymen have withdrawn their names as patrons, though we understand this withdrawal has not been made entirely without opposition on the part of the company, who insisted on their supposed rights to use recommendations once given.

The unfortunate association of religion and charity with the evident commercial qualities of the proposition has produced a serious revulsion of feeling in many of those already lacking in cordial sympathy with the church, who seem to see in this scheme the confidence of religious people almost openly abused. Some of the stock-jobbing features in this matter have not been entirely unworthy of the promotion efforts of "frenzied finance." It is not a pleasant thing to learn that a large block of stock in this concern is said to be held in the family of a very prominent clerical dignitary, who has not hesitated to express in public not only his approval, but his fervent commendation of what is being accomplished by this method of treatment. When, in addition to this, it is learned that some of the methods of obtaining testimonials from cured cases are worthy of those which are employed by the competitors and colleagues of the proprietary medicine business, the impression produced is indeed sad. The whole scheme by which the stock of this company was put on the market smacks so much of modern promotion methods that the church connections cannot but be smirched by it and the evil effect on people's minds, when the truth comes to be known, cannot but be supremely evil.

We have been at considerable pains in order to secure definite details in this matter, because we understand that the Oppenheimer method of treatment is being offered as an exclusive right to physicians in certain small towns throughout the country. As in the case of the sale of stock, physicians are told that there are many agents for this method of treatment all over the country who are most efficient in their recommendation, and yet whose efforts are secured entirely without pecuniary compensation. The reference is evidently to the many clergymen who, having become interested because of the example of the more prominent divines of the large cities who were patrons of the concern, are attracted by the supposedly charitable features of the work. Physicians are told that far from discrediting them professionally or ethically, the use of this method of treatment will rather add to their prestige in the communities in which they practice, because of the church interest in it. It would be well, however, for prospective investors in this "exclusive right" to realize the position that the company has come to occupy in recent years and to appreciate at their proper value the advertising methods which have given them such unenviable notoriety and have withdrawn from them the sympathy of so many of those who were originally interested.

ECHOES AND NEWS.

NEW YORK.

Appointment at Craig Colony.—Dr. L. Pierce Clark, of New York, has been appointed Consulting Neurologist at the Craig Colony for Epileptics at Sonoma, N. Y.

Another Tent Hospital at Coney Island.—Announcement is made by Dr. John F. Fitzgerald, medical superintendent of the Kings County Hospital, that a tent hospital at Coney Island for tuberculous children will be established this summer by the Department of Public Charities. A tent has been ordered which should be in place by May 1, and at least twelve tuberculous children will be cared for along the lines successfully carried out in the tent hospital at Sea Breeze by the New York Association for Improving the Condition of the Poor.

Housing Conditions as they Affect the Wealthy.—The menace to the well-to-do from the unsanitary housing of the poor is being brought home to the public by various investigators and settlement workers. It is not a particularly altruistic appeal, but may prove effective where such a one would fail. At a fashionable gathering in New York not long ago a speaker, after portraying the desperate conditions under which some tenement-house manufacturing is still carried on, offered the remark that probably every person in her audience had on some article of clothing which had been handled under such conditions. And the published photograph of a woman in the last stages of tuber-

culosis, sewing on fancy collars in a room which daylight never enters, ought to have some effect outside of cutting down the sales in the ladies' neckwear department.

Hospital Appointments.—The following men of the University and Bellevue Hospital Medical College have been appointed to hospitals: *Bellevue Hospital, Third Division*, J. P. Hunt, C. J. Goeller, E. R. Crowe, F. M. Kempf, L. B. Rogers, I. M. Vanderhoff, *St. Francis Hospital*, First, A. L. Denchfield, *Mt. Sinai Hospital*, A. A. Epstein, *Sydenham Hospital*, A. Hertlich, *Lynn Hospital, Lynn, Mass.*, C. L. Hoitt, *Marine Hospital, Stapleton, S. I.*, R. Knowles, *Workhouse Hospital, Blackwell's Island*, L. W. Locke, B. L. Wyatt, J. J. Rand, *City Penitentiary Hospital, Blackwell's Island*, G. C. Lyons, *J. Hood Wright Hospital*, J. F. Sharpe, *St. Vincent's Hospital*, G. R. Stuart, *Brooklyn City Hospital*, McW. B. Suttan, *St. Michael's First place, Newark, N. J.*, J. C. Winans, *City Hospital, Blackwell's Island*, R. J. Wrenn, H. C. Cook, *Gouverneur Hospital*, L. H. Lohmiller, *Kings County Hospital, Brooklyn*, F. C. Howard, *Post Graduate Hospital*, Eugene Callo-way.

Witnesses of Accidents.—The only place in this town where it is easy to secure the names of witnesses to a street accident is on the lower East Side. Down there everybody living within two blocks of the scene of disorder is anxious to be put on record as an eyewitness, and they swarm around the disabled truck or refractory car, fairly fighting for a chance to tell the inspectors what they know about it. Sometimes they don't know anything, but that doesn't matter. What they did not see they can "make up." However, this manufactured evidence is generally detected as spurious by expert officials, consequently it is seldom that any one is either harmed or benefited by imaginative testimony. In other parts of the city the difficulty of getting at facts is of another kind. There curiosity seekers who have run a block to see a smash-up will run ten blocks in the other direction to avoid being summoned as witnesses. Through this reticence an injustice is no doubt frequently perpetrated, but that consideration in no wise affects the wary spectator. He doesn't want to talk, and unless subjected to powerful pressure, he doesn't talk.

Filth in Country Dairies.—Some shocking conditions have been discovered by the Board of Health inspectors in dairies that supply New York City with milk. Buildings have been found in Dutchess and Orange counties too filthy for the habitation of beasts used for dairy purposes. Wooden floors rotted with the milk drippings of years over dank, foul cellars, floors of ill-fitting stone slabs laid on the earth, ancient wooden cooling tanks saturated with filth, wooden open drains and contaminated wells are some of the things reported by the inspectors in about one hundred small dairies. New York residents, however, can take comfort the fact that these dairies form only a small percentage of those that send milk to the city. Most of the dairies are in excellent condition, according to Dr. Walter Bensel, assistant sanitary inspector of the department, and not a few are as perfect as care and science can make them. The bad cases discovered are worse than anything recently recorded, but they are isolated, few in number, and will be improved or closed up. The railroads that bring most of the milk to New York—the Erie, the New York Central, the Delaware and Hudson, the Ontario and Western, and the Delaware, Lackawanna and Western—are helping the Board of Health in a general crusade against the sources of contaminated milk.

PHILADELPHIA.

German Hospital Reports.—During the month ending April 30, 1905, 262 patients were admitted to the German Hospital, and 255 were discharged as cured. In the dispensary 4,200 cases were treated.

The Medical Club of Philadelphia Entertains.—On April 28, 1905, the Medical Club of Philadelphia gave a reception at the Hotel Walton to Dr. König, President of the Pennsylvania State Medical Society.

An Epidemic of Cerebrospinal Meningitis Feared.—The health authorities of Wilkesbarre are very much exercised; they fear that this disease will become widespread at a place named Breslau because of the fact that at least 65 school children kissed a child dead of this disease.

Typhoid Fever Closes a School.—Upon the advice of the Board of Health, the Camac Kindergarten was closed indefinitely because a case of typhoid fever developed in the family of the janitor, who lives in the same building. Last week 289 new cases were reported to the Board of Health; most of them came from the northeastern part of the city.

Section on Medical History of the College of Physicians.—The organization of this section of the College of Physicians took place April 24, 1905. The scientific program was opened by Dr. Roland G. Curtin, who read a paper on "Æsculapian and Modern Health Resorts Compared." Dr. William Pepper then showed lantern slides illustrating the early history of the medical department of the University of Pennsylvania. Dr. A. Jacobi then read a paper on "The Most Eminent American Physician of European Birth." This section will meet every fourth Monday of the month except July and August.

Philadelphia County Medical Society.—This society met April 25, 1905. The scientific program was opened by Dr. Carl Beck, of New York, who, by invitation, read a paper on "The X-ray in the Diagnosis of Tuberculosis of Bones and Joints." Dr. G. E. Pfahler, by means of negatives, illustrated the site of the lesions of tuberculosis of lungs with reference to diagnosis of the disease. Dr. W. S. Newcomet then read a paper on "The Treatment of Superficial Tuberculosis." Dr. Henry K. Pancoast read a paper on "The Treatment of Deep-Seated Lesions of Tuberculosis." The discussion was opened by Dr. W. L. Rodman; it was continued by Dr. S. Solis-Cohen, Dr. Judson Daland, Dr. J. B. Shober, and Dr. M. K. Kassabian, who exhibited negatives taken at the Philadelphia Hospital.

Judge's Decision Renders Relatives of Insane Liable to Payment for Treatment.—According to the Act of May 21, 1889, which provides that the expense of the care and treatment of indigent insane in the State Hospital shall be fixed at the uniform rate of \$1.75 per week, many of these patients should have been and should be supported by the relatives instead of the county. Judges Beitler's decision, rendered in the case of Henry M. Tait, whom John R. K. Scott asked to be committed for refusing to obey an order from the court to pay for his wife's treatment in the insane hospital, will tend to enforce the above act and relieve the county of considerable expense. Mr. Scott takes the ground that the county is now paying for patients in such institution instead of relatives who are well able to do so.

Philadelphia Neurological Society.—At the meeting of this society, which was held April 25, 1905, Dr. Wm. G. Spiller exhibited a "Case of Amyotrophic Lateral Sclerosis Associated with Long Standing Anterior Poliomyelitis." Dr. Wm. Zentmayer exhibited a "Case

with Unilateral Exophthalmos and Extensive Involvement of the Cranial Nerves." Dr. Thos. J. Orbinson read a paper on "Delusional Insanity of the Persecutory Type with Cyclical Relapses." Drs. Chas. S. Potts and Wm. G. Spiller read a paper entitled "Pseudosclerosis; Report of a Case with Autopsy." Dr. Chas. W. Burr and Dr. C. D. Camp then read a paper on "The Causes of Triplegia." Dr. J. H. W. Rhein reported a case of "Syphilitic Encephalitis and Double Hemiplegia with Necropsy." Dr. R. V. Patterson reported "Two Cases of Korsakoff's Psychoses, one with Autopsy."

Bills Approved by the Governor.—The first bill approved by the Governor abolishes the present State Board of Health and substitutes a Commissioner of Health with an Advisory Board. The Commissioner is appointed by the Governor; he must be a physician who has had ten years' professional experience, and must be a graduate of a legally constituted medical college. His salary will be \$10,000 and expenses a year. Dr. Charles Penrose, brother of Senator Penrose, and Dr. B. H. Warren, the present Dairy and Food Commissioner, have been named as candidates for the position. The Governor also approved the bill prohibiting the use of preservatives in foodstuffs. According to the bill any one caught selling articles of food containing boric acid, formaldehyde, the sulphites, sulphate of copper or any of the coal-tar products will be fined or imprisoned.

A New Hospital for the Treatment of Diseases of the Alimentary Canal.—The object of the institution is to provide comfortable surroundings and proper food for poor suffering with cancer and other chronic diseases of the digestive tract. To establish a well-equipped laboratory for research work to determine adulterations of foods. To establish a school of dietetics, in which free instruction to the public will be given. The following were elected as Board of Managers: Clayton McMichael, G. Heide Norris, Henry R. Edmunds, Dr. Lewis Brinton, Henry A. Fry, Rev. Herman L. Duhring, William N. Ashman, Charles C. Newton, Dr. James McAllister, William R. Verner, Samuel H. Cramp, J. P. Brinton and Barclay H. Warburton. The medical staff will consist of Drs. John B. Deaver, D. D. Stewart, John B. Shober, Sherborne W. Dougherty, James Thorington, George B. Wood and Lewis Brinton.

The Housing Problem in Philadelphia.—The question of the housing of the poor develops different phases in the various cities, and it seems that the peculiar difficulty in Philadelphia arises from the very precaution which its founder took to secure light and air. The large blocks intended to provide lawns and gardens for the dwellers in the City of Brotherly Love have lent themselves with fatal readiness to being cut up and penetrated by blind alleys and walled-in courts, bringing about a condition of disease and danger which would vie adequately with the dumb-bell tenements of New York. The tenement houses are not built so high as in the latter city, but that very fact fosters overcrowding, and a condition has developed which calls imperatively for remedy. A tenement-house bill has been introduced in the legislature, as a result of recent investigation, but is meeting with determined opposition from interested parties.

Pathological Society of Philadelphia.—At the meeting of this society, which was held April 27, Dr. James Ewing, of Cornell University, New York, read a paper on "Some Aspects of the Problem of Immunity in Typhoid Fever." During the course of the paper he noted that the immunity in this disease

involved the destruction of the bacteria in addition to the toxins and those within the cell of the bacteria. The cause of the fatal issue in that condition termed "Sterile Death" is due to the endotoxins which are elaborated by the dissolved bacteria and against which immunity cannot be produced. They are similar in nature to those obtained by Vaughan from the colon bacillus. Vaughan states that tolerance can be produced toward these toxins but up to the present time immunity has not been produced against them. Dr. Ewing stated that the amido products in the body are oxidized and thus rendered harmless. The living bacteria, he maintained, destroy the red blood cells more rapidly than the toxins and that the red blood cells and the tissue cells are destroyed by the toxins. The albumoses, he believes, must occupy a prominent place among the toxins. He intimated that recovery from typhoid depended upon something more than the mere bactericidal properties of the blood serum, and that the severity of the disease depended upon something else than the number of bacilli in the blood. The typhoid state, he takes the ground, is due to the toxins resulting from the degenerated and necrotic tissue. The paper was discussed by Dr. A. C. Abbott, Dr. Ravenel, Dr. Riesmann.

CHICAGO.

Swedish-American Hospital.—Plans have been in preparation for the erection of a new hospital bearing this name at Green and Sixtieth streets, at a cost of \$100,000.

Erection of New Hospital.—April 21, the first spadeful of earth in the excavation for the new Michael Reese Hospital was turned by Isaac Greensfelder, who, it is said, performed the same office when the original building was begun a quarter of a century ago. The new hospital will cost \$475,000.

Smallpox.—It is said that there are 93 smallpox patients in the isolation hospital up to this writing, the largest number ever under the care of the staff at one time. It is also the largest number of smallpox victims which the city has had on its hands in one day for ten years, since the epidemic of 1895. But no alarm is felt by the health authorities, as many of the cases are recovering and several of the victims are nearly ready to be discharged.

Free Lectures on Health Topics.—The Chicago Medical Society has rendered a distinct service, both to the public and to the department, by its course of free popular lectures on health topics. The last of these for the season—on "Vaccination and Smallpox," by Dr. Heman Spalding, Chief Medical Inspector of the Department, and on "Epidemic Cerebrospinal Meningitis," by Frank Billings—were especially timely and valuable. That by Dr. Billings has already done much to allay the popular and professional dread of an unfamiliar, and, therefore, a terrorizing disease, which has been unduly exploited alike in the secular and in the medical press.

Results of Dairy Inspection.—A marked improvement in the conditions of milk production in the Chicago milk zone is shown by the dairy inspections since the first of the year. Of the 2,857 dairies inspected during 1904 there were 544 found feeding "wet malt," and among the herds so fed there were found 152 diseased cows. These animals, suffering from tuberculosis, anthrax, actinomycosis, etc., were killed and cremated, and the milk from 544 dairies was excluded from the Chicago market. The proportions were 19.11 per cent. of "wet malt" and 0.25 per cent. of diseased cows. In the inspections made since the first of the

current year the proportions found have been 14.23 per cent. of "wet malt" and 0.19 per cent. of disease—an average reduction of a little more than 25 per cent. in each.

State of Chicago's Health.—After a briefer term than usual, pneumonia again yields to consumption as the principal cause of death, according to the bulletin of the Health Department. During the week there were but 72 deaths reported from the former and 78 from the latter disease. Between November 1, 1904, and April 22, 1905, a total of 2,489 deaths were reported from pneumonia and 1,583 from consumption, these figures showing 556 fewer pneumonia and 75 more consumption deaths than for the previous corresponding pneumonia season, when the totals were 3,045 pneumonia and 1,513 consumptive deaths. The decrease of pneumonia has been the chief factor in the reduced general mortality rate of this period. During the 175 days ended April 23, 1904, there were 14,741 deaths from all causes reported; during the corresponding period ended April 22, 1905, there have been 13,387 deaths from all causes reported—or 1,454 fewer, of which number 556 were of the pneumonia deaths.

GENERAL

The Ethics of Medicine.—Dr. Richard C. Cabot delivered a lecture on "The Ethical Forces in the Practice of Medicine" in Phillips Brooks House, Boston, on Thursday, April 13. This was the first of a series of lectures that are to be given in the next few weeks on the ethics of the professions.

American Society of Clinical Surgery.—The meeting of the American Society of Clinical Surgery was held in Boston at the Massachusetts General, Boston City and Carney Hospitals, during the days of April 21 and 22. A program of a distinct practical nature was arranged for, consisting of operations at the three hospitals and demonstrations of rare and interesting cases.

Cocaine Legislation.—The New York Pharmaceutical Association has petitioned the legislature for a law to restrict the use of cocaine in catarrh snuffs and the like, and the bill is now in committee, of which Mr. Sheldon is chairman. It is alleged that many instances occur in which the cocaine habit is established involuntarily by the use of these snuffs, and that the manufacturers intend to make every effort to block any legislation aimed at the sale of such preparations.

Connecticut River Valley Medical Association.—The annual meeting of the Connecticut River Valley Medical Association will be held at Hotel Windham, Bellows Falls, Vt., on Tuesday, May 9, 1905. These papers will be read: "Some Indications in Operative Obstetrics," by Dr. J. B. Hyland; President's Address—"Puerperal Infection," by Dr. W. F. Hazelton; "N pneumonia and Its Management," by Dr. H. L. Waterman; "Diagnosis of Acute Abdominal Affections," by Dr. H. G. Stetson.

The Meningitis Situation.—Cases of meningitis continue to come into the hospitals of Boston. There are many at the City Hospital, about twenty at the Massachusetts General and a slightly smaller number at the Children's. Diphtheria antitoxin is extensively used, at the Children's especially, where lumbar puncture is a more or less routine measure in such cases. This is given up in order to determine the results, if any, of the antitoxin. The mortality is not large; whether or not this is due to this method of treatment, however, is impossible to say.

Meeting of the American Roentgen Ray Society.—The sixth annual meeting of the American Roentgen Ray Society will be held at Johns Hopkins University,

Baltimore, September 28, 29 and 30. Arrangements have been made for an excellent program and a large attendance is expected. The papers of the meeting for the first day will deal with X-ray diagnosis, and those of the second and third days will be therapeutic. There will also be an evening exhibit of lantern slides which promises to be extremely interesting. The Belvedere Hotel has been selected as headquarters.

Massachusetts Emergency and Hygiene Association.—At the meeting of the Massachusetts Emergency and Hygiene Association, Boston, at the home of Mrs. Kate Gannett Wells, 45 Commonwealth Avenue, Boston, Dr. James J. Minot was elected president, Miss M. O. Clark secretary, and Dr. Robert J. Loring treasurer. Miss Lucy Lowell was elected to the board of vice-presidents. Dr. A. K. Stone spoke on the training of the attendants. Mrs. Wells, for the committee on Charlesbank, stated that it was intended to keep the place open both winter and summer for children. Miss Annie E. Barbeau told of her work in connection with the playgrounds in schoolyards.

Plague's Ravages in Chile.—Passengers from Chilean ports, according to a despatch from Mazatlan, Mexico, to San Antonio, Tex., bring the first full information concerning the terrible ravages of bubonic plague in the city of Pisagua, Chile. For some time before their departure the deaths in Pisagua had ranged from ten to thirty a day, and the authorities were then unable to enforce burials. Bodies were thrown into the streets and spread contagion. But little headway had been made in the fight on the disease, and it seemed as though the entire population of that Chilean port might be exterminated by the plague. Many persons had been shot down by the soldiers on guard while attempting to escape from the stricken city.

Dr. Osler Urges Fusion of Colleges.—Dr. William Osler, in a farewell address to the Medical and Chirurgical Faculty of Maryland, in Baltimore, April 27, urged the fusion of medical colleges in this and other cities of the country. Medicine gives more hope for humanity than anything else, he said, and combination and reciprocity are the great needs. Reciprocity between the State Boards should be extended, for a man's activities should not be limited in moving from State to State. There should be fusion of medical schools. It is time that the homeopathic brethren were coming into the fold. A difference in drugs should no longer separate men with the same hope. The original quarrel is ours, but the homeopaths should not allow themselves to be separated by a shibboleth that is inconsistent with their practice to-day.

Medical School Courses.—Beginning next year fourth-year students in the Boston Medical School will choose all their courses under the elective system. Heretofore all work except courses amounting to three hours of examinations has been prescribed. The elective courses will be given as half-courses or as multiples of half-courses. Each half-course has a value of 125 hours, and eight half-courses are necessary to satisfy the requirements of 1,000 hours of work demanded in the fourth year. The two half-courses elected for the first two or the last two months of each half-year must be formed on the same plan in order to avoid conflict. Students wishing to specialize may elect more than one of the half-courses offered in a particular branch of medical study, but no student will be allowed to devote his whole year to one subject without the consent of the head of the department concerned.

Spotted Fever in Germany.—An intimate connection between influenza and spotted fever, or the cerebro-spinal meningitis, now epidemic in Germany, is sur-

mised by some German investigators of the cause of the disease. Scientists appear not to be fully satisfied that the *Bacillus meningococcus* is the sole cause of the disease since the same bacillus is present in pneumonia. The so-called Pfeiffer bacillus which causes influenza has been discovered in a number of cases of meningitis. The epidemic latterly has assumed a more serious form in Silesia. In the Beuthen district out of twenty-eight cases seventeen deaths were reported for the week which ended April 26, and in the Kattowill district last week there were forty-seven new cases and twenty-seven deaths. Sporadic cases are now reported daily from nearly all parts of Germany, but the physicians do not fear a general epidemic. In Berlin and Dresden the population is greatly alarmed.

The Brooklyn Tuberculosis Campaign.—The formal organization of a Committee for the Prevention of Tuberculosis of the Brooklyn Bureau of Charities has been effected on the lines of that of the Charity Organization Society in Manhattan. On March 16 Dr. J. H. Raymond was chosen chairman, William I. Nichols secretary, and Miss Margaret D. Dreier treasurer. The committee was addressed at its first meeting by Dr. Hermann M. Biggs of the New York Board of Health, who gave an outline of the work which has already been accomplished in Manhattan. The first object to be attained in Brooklyn is the establishment by the Board of Health of a dispensary for the treatment of patients suffering from incipient tuberculosis. It is understood that the department is entirely favorable to this plan and that the necessary funds are available. As soon, therefore, as a suitable place is selected it is hoped that a dispensary will be established. All the members of the committee are deeply interested in the undertaking and are planning an active campaign of education which will be inaugurated by a public mass-meeting to be held in the near future and to be addressed by recognized authorities on the subject of tuberculosis.

Disease Peril in Cars.—In the course of his inquiries as to the possible spread of diseases over the country through the unsanitary condition of railway passenger and street cars, Surgeon-General Wyman of the Marine Hospital Service has received a large number of letters from health officers of the various States and cities expressing the almost unanimous opinion that many diseases are contracted by the traveling public through breathing vitiated air in the cars or by the reception into their systems of disease germs from others infected. Especially is this said to be true of tuberculosis. Health boards and health officers in almost all parts of the country are making strenuous efforts to remedy this great evil, but are hampered in their efforts by lack of legislation. Only one or two of the States have laws giving authority to the health boards to enforce sanitary rules and regulations on the railroads. C. A. Goodnow, General Manager of the Chicago and Alton, writes that his company has been experimenting with a new device, and that as it has proved satisfactory, the company doubtless will equip all its cars with it. The Pullman Company has appointed a Superintendent of Sanitation, whose special duty it is to make thorough and complete tests of whatever devices may be offered, until one is found that will prove satisfactory. Other companies are working along the same lines, and it is believed that the railroad authorities and the Health Boards, acting in harmony, will soon work decided changes for the better preservation of the public health.

The Almshouse Maniac in Maryland.—The report just issued by the Maryland Lunacy Commission is a plea that that State shall "range herself by the side of

other progressive States, and pronounce most emphatically in favor of State care for the unfortunate insane," and this from a purely economical standpoint, regardless of humanitarian considerations. The issue is put tersely: "Under State supervision, entertainment, occupation, kindly care, scientific treatment; under the county system, no occupation or entertainment, negligent care, the women not safe from outrage, no treatment—which will the people choose?" The report shows that there were on December 1, 1904, 2,938 insane persons in Maryland. Of these 401 were colored. The insane have, in large part, been removed from the county almshouses, either to one of the State institutions or to the county asylums and the need is to make this reform general. While some two hundred and twenty remain in the almshouses, over a thousand are in county asylums or private corporate institutions. The worst feature, of course, lies in the almshouse care in institutions which are inaccessible, in dilapidated buildings, on farms which are poor farms in both senses of the word, and in company with the aged, and the paralytic, with epileptics, imbeciles, and mild dementes. Illustrative cases are given by Dr. George J. Preston, secretary of the board, of acute cases of insanity treated in such almshouses, and they make a telling showing in support of State control. The secretary was asked to investigate a case in a county almshouse, and found locked up in an indescribably filthy room, a man who was cursing and yelling at the top of his voice, to all intents a wild animal. This man was removed to one of the State hospitals, where the secretary saw him shortly after his arrival and found him well-clothed, well-behaved and contented. The second case was also seen in one of the counties—a negro man, who was chained to a tree in summer and confined in a miserable improvised cell in winter. This man is now at one of the State hospitals, a well-behaved patient and a good worker. These were both incurable cases, and are cited to show the ameliorating effects of suitable environment.

Local Nurses for Beirut.—The Syrian Protestant College at Beirut is about to enlarge the scope of its activities by adding a training school for nurses, the only institution of its kind in Asia Minor. A medical department was established at the college in 1867, the year after the institution was founded, but up to the present there has been no place nearer than London where Eastern women could receive the scientific training which modern medicine demands from nurses. Miss Jane Van Zandt, who is to have full charge of the training school, sailed on the Slavonia on March 28. Miss Van Zandt is a graduate of the Post-Graduate Medical School and Hospital's training school for nurses of this city, and is a specialist in food for babies and children, to which more and more importance is being attached by physicians. Much difficulty was experienced by the trustees of the Syrian College in finding a suitable person to undertake the responsibility of inaugurating so radical an innovation in the East. It is probable that two or three other nurses will be sent out to assist Miss Van Zandt, who will also have the assistance of Mrs. Dale, the daughter of President Howard Bliss. She has been active in the work of the institution, and has the advantage of being a fluent Arabic scholar. The old Arabic science of medicine, which was once far in advance of European knowledge, has dwindled with the decay and overthrow of the empire of the Caliphs to a rudimentary acquaintance with the virtues of herbs, combined with frequent exorcising of the evil one. With such methods in vogue it is little wonder that the graduates of the medical department of the Syrian Protestant College are in de-

mand all over Asia Minor and Egypt. The work which is accomplished by this school can be better appreciated when it is remembered that with the exception of the Jesuit College at Beirut it is the only medical school in Asia Minor. No difficulty in obtaining pupils is expected, for within the last fifty years a remarkable change in the attitude of the Syrians toward education has taken place. Beirut is now once more a great educational center, as it was in the time of Justinian the Great, and is probably the most enlightened city of the Orient. As a race the Syrians, from whom the majority of new nurses will in all probability come, have retained the subtle, clever minds for which in the last days of the Roman Empire their theologians and philosophers were distinguished.

Meeting of the Suffolk District of the Massachusetts Medical Society.—The last meeting of the Suffolk District of the Massachusetts Medical Society, held in conjunction with the Boston Medical Library, was held April 29, 1905, at the library. The subject for discussion was typhoid fever.

Dr. F. C. Shattuck spoke on the treatment of this condition, outlining the course to be pursued in general, but emphasizing the need of individualization in each case. In regard to both he said that too often the object was to reduce temperature, and that a bath was considered successful when a large "drop" was obtained; he considers that it makes no difference whether there is a drop or not; the stimulating effect on the patient is the prime object. In some cases he advises alcohol sponges, and in others he omits baths altogether. The subject of diet was carefully gone into; he does not believe in a strict milk diet, but in most cases allows liquids and soft solids. As an important aid to convalescence he commences general massage as soon as the fever has subsided.

Dr. Maurice H. Richardson spoke on the differential diagnosis of a perforated typhoid ulcer from acute abdominal conditions. He first spoke of those cases where there was no doubt as to the diagnosis of typhoid, and then on the more difficult class where it was not certain whether or not the patient had typhoid fever. He then considered three conditions, simulating a perforation occurring in the course of a typhoid, illustrating this by cases, one where an acute salpingitis ruptured in the third week of the fever; another of appendicitis, and several of acute gall-bladder conditions.

Dr. Mark Richardson gave a most interesting paper, showing the results of his experiments in the serum treatment of this disease. He first used an antitoxin obtained from the blood of an immunized horse; lately he has been using the filtrate of a bouillon culture of typhoid bacilli. This when injected is supposed to cause to be set free at once a large number of antibodies, causing an initial chill and rise of temperature, followed by a sudden drop to about normal. Many of his cases clinically acted in exactly this way. His results, although very suggestive and encouraging, are not sufficiently far advanced as yet to prove anything.

Dr. Charles D. Easton read a paper on Urotropin in the Treatment of Bacillurea in Typhoid. He first spoke on previous researches and experiments along this line, and especially of work done by Dr. Mark Richardson on this subject. He then described his own experiments. Fifty patients were given urotropin until the temperature dropped, when it was withdrawn. Three days later they were catheterized as carefully as possible, and the urine examined for typhoid bacilli. The results showed very clearly the importance and efficacy of urotropin as part of the regular treatment of typhoid fever.

Underfed Children in England.—There can be no doubt, says the *British Medical Journal*, that one of the most important factors in influencing the physique of a nation must be the possibility of the children obtaining an adequate supply of suitable food. The education Committee, of Leeds, England, have made an inquiry through their School Attendance Subcommittee into the number of underfed children attending the elementary schools in the city. According to their report the number amounts to 3,245. Not only is the feeding of children during the school-going age of the utmost importance, but there ranks with it the feeding of the younger children and infants, and of the mothers during pregnancy and lactation. Dr. William Hall has, with every precaution to ensure a fair comparison, investigated the physical condition of groups of Jewish and Gentile children of the same age, and living under the same conditions as to locality and as to poverty. After the examination of some three thousand in all, Dr. Hall stated that the poor Jew was three pounds heavier and two inches taller than the poor Gentile at the age of eight; at ten years of age he was 6¼ pounds heavier and 2½ inches taller; and that at twelve he was seven pounds heavier and 1¼ inches taller. The teeth of all the children were examined and the condition of the osseous system investigated as far as possible, and Dr. Hall's report is that from six to thirteen years of age the poor Jew is much less rickety and has much better teeth. A great many of the Gentile children were mouth-breathers, but in his examination of the Jewish children Dr. Hall was struck by the size of the nasal chamber and with the breadth and flatness of the roof of the mouth, and by the absence of mouth-breathing. Dr. Hall claims this difference is due in great measure to the character of the nourishment supplied to them before and after birth. Among the class he has investigated the pregnant Jewess is better fed, and after delivery she usually nurses her child, being able to do so in a greater percentage of cases than her Gentile sister. After the period of lactation he has found that the dietary of the Jewish child is much more wisely devised. With the assistance of some philanthropic friends Dr. Hall has, during the winter months, been feeding some of the children of the poorest class in the city. He has made most careful measurements throughout the "treatment," and certainly his figures are surprising and encouraging, showing an average gain for children of seven or eight years of age of five pounds in the first two weeks. This extraordinary gain is attributed by Dr. Hall to the fact that the tissues of these half-starved children are ready to pick up nourishment with avidity. The results were obtained merely by assuring to each child one adequate meal each day. Later two meals were given, but at a cost of about ten cents for the two. No one who has followed Dr. Hall's work can fail to be impressed by the encouraging fact that children who have made a bad start in life, and who are living "on the edge of scurvy," may be, one may really say, rescued at the cost of ten cents a day.

"First Aid" in the Anthracite Mines of Pennsylvania.—Hundreds of lives will be saved, it is expected, in the anthracite coal regions of Pennsylvania through the action of the Philadelphia and Reading Coal and Iron Company in adopting plans to extend the benefits of the first aid to the injured system in the mines. The mortality list of the anthracite regions each year is largely added to by deaths from wounds and injuries which are not necessarily fatal but which result in death because of the loss of blood and the lapse of time ensuing before skilled medical aid can be

secured. The method of handling injured men at the bottom of shafts and slopes has also been clumsy and helped to decrease the chances of recovery for an injured miner. The whole system of handling the injured has been revolutionized by the Reading company, and steps have been taken to organize first aid corps at all the collieries. About 200 young men will be enlisted in this work, and it is the intention of the company to reward them with appointments as assistant foremen. Dr. George H. Halberstadt, of Pottsville, has been delivering lectures on this subject to the employees of the Reading company this winter, and his organization of a model first aid corps at the Wadesville colliery and the gratifying results achieved led the company to decide to extend the system to all its mines. Surgeons at hospitals where patients have been received who were treated by the first aid corps organized by Dr. Halberstadt are unanimous in testifying to the value of the system, and several men already probably owe their lives to the aid thus rendered. It is considered certain that the plans outlined by Dr. Halberstadt will soon be adopted by every coal company in the country. When a man is injured the members of the first aid corps are instructed to respond to a call in double-quick time, carrying litter or stretcher and the box containing the bandages, splints, etc. Fractures of the foot, leg, thigh, rib, collar bone, arm and forearm, or injuries to the head are promptly dressed. For burns of the body a dressing of picric acid gauze is applied. The corps is also instructed in the means to be adopted to rescue a man from electrical contact, and is taught how to establish artificial respiration in case of suffocation from gases, of drowning and of suspended respiration from electrical contact. The corps has also been taught how one man can pick up an unconscious man, throw him on his shoulders and carry him away without any trouble; how two men can pick up and carry away an injured person, and how three men can do the same thing; how four men can take an injured person down a steep grade, and how to cross a fence or other obstruction with a litter; also how to put an injured man on a stretcher or a mule. How to stop hemorrhages in different parts of the body by the application of successive dressings, and, as a last resort, how to use either the tourniquet or an improvised tourniquet is fully understood by the corps, as is also the method of removing foreign bodies from the eyes, nose and throat. The special dressing box was devised by Dr. Halberstadt.

OBITUARY.

Dr. JULIET POTTER TIFFANY VAN EVERA, many years a professor of pediatrics in the New York Medical College and Hospital for Women, and a well-known practitioner, died of spinal meningitis at her home in Passaic Park, N. J., on Thursday, aged sixty-nine years. She was a pioneer in settlement work in New York. In 1866 she established for the Children's Aid Society a mission school at No. 327 Rivington Street, and later began a course in the New York Medical College, being graduated in 1872. In 1874 she was appointed an examiner in lunacy, being the first woman to hold that position in New York State. Failing sight necessitated her retirement several years ago.

Dr. JOHN H. HINTON, one of the oldest physicians of New York, a friend of Joseph Jefferson and General Horace Porter, died in his seventy-ninth year at his home, No. 41 West Thirty-second Street, after several weeks' illness from dropsy. Dr. Hinton was graduated from the College of Physicians and Surgeons, and began practising medicine in 1854 in Fourteenth Street,

but had been practising from his office in West Thirty-second Street since 1859. He was for a long time treasurer of the New York Pathological Society, treasurer of the Society of Widows and Orphans of Medical Men, and treasurer of the American Folk Lore Society. He was a surgeon in the army during the war between the States. He was a member of the Union League, the Grolier and the Players' clubs, and also of the St. Nicholas and National Arts societies.

SPECIAL ARTICLE.

THE OSLER DINNER.

ON Tuesday evening, May 2, at 8 P.M., more than 500 physicians from many parts of this country, Canada, and one from Cairo, Egypt, sat down to the farewell banquet, given in the ballroom of the Waldorf-Astoria, in New York City. The guest of honor was Prof. William Osler and the occasion for the banquet his approaching departure to take up the duties of Regius Professor of Medicine of the University of Oxford. The occasion proved a most happy one, perfect in all its details, and the committee deserves the thanks of the medical profession for the care that must have been exercised to make the evening so thoroughly pleasant.

The toastmaster of the evening was Dr. James Tyson, of Philadelphia, one of Prof. Osler's oldest friends, and the one who wrote the letter of invitation that brought Prof. Osler from Montreal to Philadelphia, and gave him the opportunity for the larger career which has stamped his personality on American medicine.

Prof. Tyson said that Dr. Osler had very naturally, because of his career in Canada as well as in the United States, attracted the attention of physicians all over the country in the broadest sense, and had had an influence wider than any other medical man of his generation. This influence is due not alone to his medical character, but to the breath of his intellectual sympathies and to the classical, biblical and poetic laws with which his name has always been associated, and which he knew so well how to make subservient to his purposes in the illustration of great principles of medicine. In introducing Dr. Shepherd, Dr. Tyson said that Dr. Osler's oldest friend would be better able than any one else to tell the story of the guest of the evening as a student and teacher in his younger days.

Student and Teacher.—Dr. F. J. Shepherd, of Montreal, spoke of Dr. Osler in Montreal, and said that in spite of the passage of thirty-five years since they graduated together in 1870, Osler looked no older, scarcely, and was not at all changed in disposition from the medical student that he at first learned to know. As a student Osler had been known, not for devotion to his books, nor as one whose main effort was to succeed in passing his examinations, but rather for his attention to the post-mortem room, and to whatever hospital work he could succeed in getting, though these features of the medical course were much less prominent than they are at present. While a serious worker, he was never looked upon as one of those who, in the modern term, was a "grinder," but on the contrary was known and loved for his social qualities, for the kindness of his disposition, and for the numerous friends that he made. In his young days there was the characteristic grain of humor that has so often been exhibited in after-life. While he did not graduate high in his class, there is especial note in the proceedings of the convocation, the Canadian name for commencement, which shows how thoroughly his medical

studies were appreciated by the faculty. A special prize was awarded to Dr. Osler's graduation thesis because of the originality it displayed and the research it evinced, and because of the collection of pathological specimens accompanying it, which were presented to the Museum. In the light of his after studies, it is interesting to note that some of these specimens, still in the college museum, concerned the ulcers of typhoid fever. When next Dr. Shepherd met Osler, he was engaged in writing the thesis of the Royal Society of England, of which he had become so highly honored a member. During his teaching days in Montreal, Osler was known for his devotion to his work and his faithful attendance at medical society meetings. His success as a teacher was in accordance with the efforts which he put forth and the interest displayed in his work. He became an inspiration for his students, and was able to rouse interest in original investigation on their part, such as had never before been seen. His personal magnetism enabled him to gather around him a group of young men, all of whom felt the precious stimulation of his own abiding interest in all medical problems. In other words, even in these early days before he was thirty, Osler displayed the qualities which later were to make his influence felt far and wide in the medical profession here in America. He did not allow his practice to trouble him very much at any time in Montreal, and if he kept office hours those at the college were not particularly aware of the fact. He never kept a chariot and, as he used to say himself, this was probably for the benefit of mankind, since those who ride in chariots kill their hundreds, while those who walk kill only their tens. His influence for good over the students in Montreal was felt far beyond the domain of their scientific education, and there is many a young man of those days who felt that he owed to Osler the turning point in his career that made him realize the value of high ideals in life. It is no wonder that he left Canada then with the good wishes of his colleagues in the college, of his students, old and recent, and of the medical profession who had learned to value him. Now that he has united the professions of the United States and Canada by the sympathetic qualities of his genius, his Canadian brothers will indeed welcome him back to the mother country, feeling that another stage of his evolution had been passed that would make him even more broadly useful.

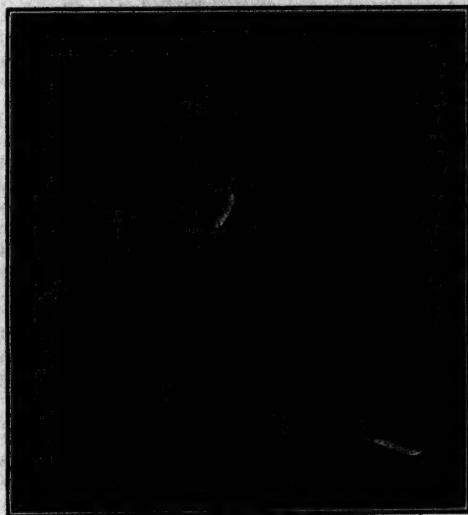
Dr. Osler in Philadelphia—Teacher and Clinician.—In introducing Dr. J. C. Wilson, of Philadelphia, who spoke to the toast of "Osler in Philadelphia as a Teacher and Clinician," Dr. Tyson said that though Philadelphia had long been considered the medical center of the United States, there was no doubt in the minds of those who were best in a position to know, that Dr. Osler's coming to Philadelphia marked an era in Philadelphia medicine.

Dr. Wilson said:

In the face of this program I cannot express surprise at being called upon to address you, nor can I indulge in the ancient apologies for lack of preparation for an unexpected honor. I may say to you, however, in confidence that for some weeks I have wondered why I was selected for this purpose and what I am expected to say. During this time I have often thought of the country minister who, finding himself somewhat ahead of his congregation, started to pray in the empty church with much fervor and in a loud voice for *force*. As he was about concluding one of his deacons, coming in, said to him, "Parson, you are praying for the wrong thing; you don't want *force*, you want *ideas*."

We cannot think of Dr. Osler in Philadelphia without thinking of him before he came to us and since he left us. His whole previous career was a preparation for his work there; his half decade of work there was, it now seems, a necessary period of training for the great decade and a half at Johns Hopkins, and the rounded half century since he left off knickerbockers a complete and progressive course of development and preparation on this side the Atlantic for the crowning period of an illustrious life upon the other side. No part of it could have been left out.

Shakespeare's "Home-keeping youth are ever dull of wit" has the fault of most sweeping generalizations. It is true, they mostly are. But not always. It depends upon the home. Populations have left New England, but who ever heard of anyone leaving Boston? Yet the Boston wit retains the old flavor. From most other places the bright spirits migrate. It has been said that the test of the true American is the impulse to move on. If this be



WILLIAM OSLER, M.D.

true, Dr. Osler is the very type of an American. And the remarkable thing is that the further he moves the more he is missed. There is no authentic record of the state of mind of that far settlement of Ontario which he left in early infancy nor of the nature of the repast by which his departure was celebrated. But when he left Toronto there was tears and sorrow and something to eat, and when he left Montreal, the same with singing, and when he took his departure from Philadelphia we had emotions which we could not suppress, together with terrapin and champagne; and now that he is going to leave the country there is universal sorrow and the largest medical dinner ever cooked. Yet there he sits, the embodiment of that imperturbability which he has so charmingly described as a medical accomplishment, but which we know to be essential to the mental make-up of a peripatetic philosopher.

I may be permitted to speak of Dr. Osler in Philadelphia from two points of view: First, the influence of our quiet Quaker life upon him, and, second, his influence upon us.

First, then, we at once sought to make a practitioner of him. But of that he would have none. Teacher, clinician, consultant, yes, gladly; but practitioner—no! and that with emphasis. This was partly due to his knowledge of affairs, partly to his temperament. One star differeth from another star in glory. His light was to be bright and guiding and seen of all men. Not for him the dim and shaded light of the sick-room, the patient daily service to the weary sufferer, the tiresome round of daily calls, and vexatious failure of the approved method to accomplish the desired result. He recognized his metier and carried out his plan. And this gave him time and opportunity and of both he made supreme use.

To an institution traditions are what character is to a man. The traditions of the University of Pennsylvania deeply impressed him. Morgan, Shippen, Kuhn, Rush, Caspar Wistar, were to him living personalities. His actual associates were such men as Agnew, Stillé, Leidy, Pepper and others whom we all know. The lives and characters of these men were not without influence upon the young Canadian, trained in the best way by association with men like Bovell, Howard and Ross, and familiar with the best methods and results of British and Continental Medicine.

Not less important was his connection with the College of Physicians, with its cherished traditions and magnificent library. Nor is the part played by the Pathological Society to be overlooked. Here he brought his best work, the result of long and keen study, illustrated by the findings in the post-mortem room at Blockley, and always met in large measure the sympathy and admiration of the younger men.

So from point to point during the five years he was with us, at the best period of his life, he found the stimulus of tradition, of opportunity and of appreciation.

What did he do for us? He made himself agreeable to the older men and demonstrated to the younger men how medicine should be learned and taught. He broadened our conceptions in regard to the inductive method in medicine. Facts, facts—always the facts. The facts of the ward, of the microscope, of the laboratory, of the post-mortem room. He made it clear to some of the younger men who are now reaping the reward of their work that it is not necessary for every man to be a practitioner in the ordinary sense, but that long years of hospital and laboratory work constitute a better equipment for the teacher and consultant. He inspired his students with enthusiasm for letters and taught them the rare rewards that come of searching the medical scriptures. He showed that in the democracy of our profession any man is free by a principle of self-selection, to attain the most coveted post of distinction and honor. He pointed out not only to us but to all men how fine and noble the profession of medicine is for those in it who are fine and noble.

He ornamented his discourse with quaint allusions to Holy Writ and *The Pilgrim's Progress*, but did not in those days say much about Montaigne and the *Religio Medici* and rarely alluded to Plato or Marcus Aurelius. Nevertheless he helped some of us to do a little thinking.

At length, after the fashion of the nautilus, he builded a more stately mansion and left us. We would have fain kept him. But that could not be. Without him the Department of Clinical Medicine

at Johns Hopkins, mother of many teachers, might have been childless.

The Old World has given to the New many and great physicians. But these gifts have been returned not so much in number as in kind. The father of Brown-Séquard was a Philadelphian. Marion Sims passed many years and did much of his best work in London and Paris, and now to the list is added another imperishable name.

I asked a bit ago who ever heard of anyone leaving Boston. There is one famous case—a Boston boy who became the greatest American. There are points of resemblance between that great philosopher and this great physician. In both are manifest vigor of body and intellect, untiring energy, unflagging interest in things and men, manysided knowledge with the wisdom to use it, that quality known as personal magnetism and the gifts of leadership. Philadelphia is fortunate to have been the home of Franklin and the abiding place of Osler.

There are many things that I could say of Dr. Osler, were he not here, that I will not say in his presence. What we leave unsaid he must take for granted. When we are deeply moved we do not say the thing that is next our heart. We take refuge in commonplaces, in persiflage. It is an Anglo-Saxon—an American trait. I speak not as a Philadelphian but as an American, when I say that it is a good thing for us that he came among us. Not only by precept but also by example has he been an uplifting influence in our professional life. How far-reaching that influence is this company attests. There are men here who have crossed a continent to break bread with him to-night. The source of that influence is to be sought not merely in his accomplishments as a physician, not in his learning, not in his wisdom, not even in his well-balanced and buoyant temperament, but in that basic principle which all recognize but none can define, which for want of a descriptive name we call character. It is character that tells and to character all things are added.

Now that he is going away we note that he has a trait that so many of us lack—greatness in little things—method, system, punctuality, order, the economical use of time. These have been the handmaids to his greater gifts. These have enabled him to widen his usefulness to lands beyond the seas.

"Seest thou a man diligent in his business? He shall stand before kings."

Dr. Osler in Baltimore—Teacher and Consultant.—Dr. William H. Welch, of Baltimore, spoke to this toast. He said that it is always hazardous for contemporaries to attempt to pass judgment on those with whom they have been brought intimately in contact. It always seems worth while, however, that a generation should realize what it considers the value of the work of the men whom it most admires and the reasons for that admiration. It would indeed be a precious document if we could have some idea of how much the medical men of his generation thought of Sydenham, and if we could have some notion of the way in which they regarded his ideas, practical, scientific and ethical. We are then making history for a future generation, and there is no doubt that the man who is being honored to-night exemplifies the highest ideal of the medical profession in his generation. When sixteen years ago Dr. Osler came to Baltimore, the main purpose of the faculty was that the hospital should be an integral part of the medical school, and that opportunities should be afforded for higher clinical training. It seemed for

this purpose that students should be made a part of the machinery of the hospital, and it is to Osler that the working out of this part of the plan is due. This indeed represents his contribution to medical teaching here in America. He had stood out originally for a broader preliminary education, for the improvement of medicine than had been the custom before, though he had realized also that many of the men who had done well in the past had succeeded in doing so even with the drawback of defective education. When it is announced that only those holding college degrees would be admitted as students at Johns Hopkins Medical School, he said jokingly, "Dr. Welch, it is a fortunate thing that you and I come in as members of the faculty, otherwise we might not be able to secure admission to the school at all."

His most striking contribution to the life at Johns Hopkins has been the interest which he has aroused among the students and the personal influence which has enabled him to bring out in them the best of their intellectual and moral points. It is no wonder that his students love to call him Chief, for even the medical profession of the country has learned to have something of that strange feeling toward him, and he has done more than any other American medical man of our generation to bring harmony into our professional ranks. The spirit of friendly cooperation which characterizes the medical societies of to-day is due not a little to Osler's incentive and to his genial qualities. His personality was constantly felt as that of a friend rather than a teacher, and his friendliness was marked by some delicious traits of humor. In Baltimore, he will be very much missed for this as well as for his great teaching qualities. No more will Dr. Thayer come home at one in the morning from some medical meeting to find the placard on his door announcing that he does medical practice for fifty per cent. less than any one else in the neighborhood, and when Dr. Opie comes to town, there will be nobody to tell the reporter of his distinguished athletic prowess, the many medals that he holds for athletic events. Many a joke has Osler played on the reporters, but they have more than repaid him in recent times, although it was all unconsciously.

Dr. Osler—The Author and Physician.—Dr. Abram Jacobi, of New York, spoke to this toast. He said:

Years ago, on some public occasion, the subject of to-night's onslaughts commended me for having passed six years of my post-graduate existence without writing, or rather publishing a single line, and seemed to congratulate those whom it might concern, upon my discreet literary behavior then and ever afterward. Him, however, I praise for having written and not ceased to write these several decades; for him art has certainly been long and opportunities he has not allowed to be fleeting. Indeed the better part of an afternoon I have spent at the library of the New York Academy of Medicine in the pleasurable occupation of copying the titles of his books, and lectures, and addresses, and pamphlets, and papers.

But lo and behold my disappointment. Part of his books, of which there are, after all, only a dozen or thereabout, in fifty or more editions, he has not even produced himself. For you will admit, and he must confess, that it is only the first editions that should be credited to the author; all the subsequent ones are due not to him, but to the greediness of the public. There are even those who pretend to know that he is no better than a tiro in publishing,

in that he never had title pages ready for binding, after every fifty sales, with the inscription: "second thousand," "twentieth" or "ninetieth thousand."

Of cyclopedias and translations he kept going or aided in keeping going, I counted only fifteen; his shortcomings, however, are most surprising in connection with his sterility compared with the rest of the world's journalistic output. We take in the New York Academy's library one thousand medical (excuse the word, it does not always fit) magazines; the affliction of the Surgeon-General's library is still more deplorable. Now imagine there are many hundreds of them to which Dr. Osler never contributed so much as a line or as a "how do you do." Indeed, I could not mention the names of more than forty (British and German included) that can boast of his name on their indexes.

You see, therefore, that you have reason to be displeased with some shortcomings of the much-praised and much-loved man. For there are really a great many things he has not said—the James Jeffries of the perilous yellow variety of the press had to do it for him; many things he has not done, many books he has not written and many addresses my "equanimity" is reluctantly forced to admit he has not delivered.

You all remember that your friend Horace, when you were young with him, said it was difficult not to write a satire. On the strength of that he found it easy to write as many as eighteen and cut right and left. Our criticism of our guest should, however, not be altogether adverse; indeed there are six hundred here who are of the opinion that no encomium heaped on this friend of ours exaggerates his deserts. Still I know how to excel Horace, for though it be ever so difficult not to pronounce a eulogy, there will be no eulogy of mine here to-night.

I want our guest to feel comfortable among us. That is why I shall become as little personal as possible; and as the occasion is propitious and you are bound not to interrupt me except on the strongest of provocations I shall merely try to draw the picture of a medical man such as I have carried in my mind all my life as an ideal to be coveted but never to be realized by any but the physician whom, provided he is at the same time a "philosopher," Plato calls "godlike."

Let us imagine a boy with a healthy body, a sturdy heart and an open mind, with as thorough a general, in part classical education as the training of two decades will afford. His information is drawn both from books and through his trained senses. That young man's inclinations will be toward natural sciences, anatomy and biology; in his clinical studies toward etiology. Perhaps he remembers from his Aristotle, that "whoever sees things grow from their origin, will appreciate their nature and beauty" and is slow to stop before a problem that appears to be beyond solution. His clinical work as a student and a graduate will be carried on upon the same lines. In late years his hospital will continue to be a school to him, but at the same time a temple, at whose doors he will leave behind him selfish motives; he will give the same time and attention to the poor that he bestows on those outside; where he looks for knowledge he will do so without making the patient recognize that he is a means to an end; he never forgets that the poor in a hospital, cut off from the world, has nobody to rely upon but his doctor; and his soul goes out to those who suffer most. Indeed, let us

of the hospitals not forget that. In that way two thousand years ago Christians were made, and nowadays socialists and philanthropists. Many of those who greet us with hungry looks are dying or going to die. Indeed, "morituri nos salutant."

In his private relations he will prove what he is, a gentleman. The Molière period of wigs, and big talk, and sophistical bravado, the food of the credulous, has or should have passed. Still, you know there is much credulity left amongst the well clad and well fed classes whose education is limited to what their mental blinders allow them to see, inside and outside of legislatures. There would be less of it if medical men would talk to the people less Greek and Latin after the fashion of an ill—or overtrained nurse, and more common sense in an intelligible language. Indeed, it is easy to explain in simple words what we so clearly understand ourselves, even to a legislative committee solemnly considering the needs of the people. To that class of plain speaking osteo- and kinesipathy do not belong. That is why they mean nothing beyond ignorance and quackery.

While doctoring with therapeutics, remedial and other, our man will sustain his patient with words and looks coming from his heart, making no cheerless prognoses within hearing, and though his own temperament and foreboding be gloomy, not letting the patient suffer from that source. For, indeed, there are those who, like Osler's friend and companion, Thomas Brown, are of the opinion that "mundus non tam diversorium quam nosocomium videtur, moriendi potius quam vivendi locus." The world is less a place of delectation than a hospital, more a spot to die than to live in. In consultations, before and after them, he cannot help being strictly ethical. While he recognizes his duties to the patient, he owes regard and respect to the colleague. The complaint you sometimes meet in the lay public, that there is too much etiquette among doctors, is flimsy. I wish there were more of it. No patient was ever harmed by the attendant or consultant behaving like what they are, or should be, gentlemen. A consultation should be a pleasure, a lesson, and a support to the attending physician. What our friend practises himself he will teach his students in few words, but incessant examples. Perhaps he remembers his Seneca: "Longum iter est per praecepta, breve et efficax per exempla." Precepts travel slowly, examples swiftly, by a short and efficacious cut. There was my good old Frederick Nasse; his kind looks and words, his gentle smile—they have all gone these fifty-four years, but are ever present to my mind. At the bedside, in the quarters of the city poor, or in the wards, he was the friend of the sick, our friend, with the same kindness, geniality and urbanity that have since warmed my soul in the hospital wards of—Johns Hopkins.

As he instructs students, so he teaches his colleagues in the profession and in professorial chairs. In so doing he is always kind, but not always in their way. Amicus Plato sed magis Amicus veritas. He loves Plato, but what he loves more, is truth. As a member of medical societies he is active, no committee work is shunned though a smaller man might do it, nobody is more energetic in filling the program of an evening, nobody more conscious of the good medical societies can do to themselves, their members and the public, and nobody more eager to disseminate his own convictions of their important functions.

This teaching, however, is not limited by the fences of his acre or his town. He is of the apostles who are told to travel and instruct and edify. He goes round about the villages teaching. He is here and there and everywhere obeying the invitation of those who want to look into his eyes and listen to the spell of his voice. A thousand miles are to him like one. To him medicine is no private or narrow business; he is the statesman in medicine which to him is not a trade, but a vocation and a religion.

I take the man I speak of to be an American, one of us. He looks about and finds it is not all that is good. Having spent his labor, time and genius on improving his facilities of teaching and learning, he may succeed to the extent of his own locality and school, but he cannot change what must be brought about by the slow progress of laborious and general evolution. When he says publicly and as often as he thinks it may do good, not that we have no great men nor efficient teachers, but that clinical facilities and methods of almost all our undergraduate schools are behind what they were in Europe fifty years ago, he is found fault with, perhaps ostracised. The least that is said against him is that he betrays our secrets to foreign lands. They forget that it is not he that betrays our conditions, it is our students, our young graduates who, by crowding into our own post-graduate and European clinics proclaim as it were from the housetops that they came to seek what they lacked at home. You must have noticed that the emigration to Europe of our laboratory students is no longer as numerous as it was years ago, but the search for clinical advantages has not abated. So if you meet a preacher in the desert, do not stone him. In ten years, or twenty, we shall admit he was right. Perhaps it may dawn upon some of us that what we took for invective, was the sensational lie of a penny-a-liner spy, and what our distrust mistook for a frown was the pity and sympathy of a humorist.

As he works for the future so he looks back into the past. A science, a profession is best understood when studied in its origin and gradual unfolding, like the human organism, which is never comprehended except through the study of the embryo and the child. The history of medicine is to him, however, only a link in the chain of human events, one of the most important parts of universal culture, in which wars and kings are only upheavals and incidents. That is why it should be studied by the people at large as a part of their education. It will be understood when presented in a comprehensible form. You all remember the classical histories written by William Osler on the internal medicine, and by W. W. Keen on the surgery, and R. T. Chittenden on the physiological chemistry of the nineteenth century, and published by the *Swn* four years ago. My medical ideal does much more. The loving connection between medicine and the world, between the profession and the public is not platonic, it is active. Being a conscientious citizen of the profession he feels his obligations as a citizen of the state and of human society. He will work for the consolidation of the profession, for the suppression of quackery and all other forms of infectious disease; for the improvement of our school system, our streets, our subways and water supplies, for the repeal of bad laws, and the introduction of good bills.

That is what your ideal medical man will do. Smaller men must be satisfied with performing only a share of it. But none of us here or elsewhere has a right to shun common duties. Next to performing great tasks is for us who cannot reach the highest aims, the ambition to work in their service. Ideals are not reserved for those who walk on the mountain tops of human existence. No man or woman should be without a heart, nor without an ideal, and the sense of responsibility to the Commonwealth of which they form a part.

Doctor Osler! Have I involuntarily drawn some, or many, or most of the outlines of your picture, or have I not? I do not know, but I could not help while speaking, beholding you before by mind's eye. Still, being neither an orator nor a poet, nor a savant like yourself, I know my language cannot reach my aspiration nor your deserts. Do not explain, or excuse, or deny, either seriously or humorously. Your natural gifts you are not responsible for, so there is really no need of an apology. The lifelong work you invested in your aims and ideals has ever been a labor of love and no hardship. You have not exerted yourself to earn thanks, and expect none. So when you enjoyed your incessant and fruitful toil we have sympathized and profited. When you, fulfilling the obligations to science, the profession and the world, found inscribed in the innermost of your heart, added to the riches of mankind, we have admired and harvested. Your character and learning, your sound judgment and warm heart, your generosity and consistency have gained thousands of friends. Friends made by such as you are not of the every day's stamp. There is nobody here or outside that came near you that has not been attracted, improved and inspired by you. These are simple statements in the plain every day words of one who, being so much older in years than you, was glad to sit at your feet and will listen to you, no matter whether you are heard in Montreal, Philadelphia, Baltimore or Oxford. As a sort of explanation of your intellectual growth and success, I have heard you speak of your indebtedness to favorable circumstances and to the influence of your descent. Be it so, for as your friend Thomas Brown, without, I believe, thinking of you, said three hundred years ago: "Non mediocri felicitatis est ad virtutem nasci" (Sent. II p. II p. 178 Merryweather)—"it is no mean felicity to be born with the imprint of virtue." So your heirloom has actually become ours, indeed; and we take pride in it almost like yourself. What your father and your good old mother, who are often on your lips, have done to shape you, they have done for us also. Tell her we send her greeting and the expression of our reverence and of our wish she may, as we do now and ever, enjoy her son long after this, her ninety-eighth year, and of our gratitude to her, the British mother of one of the greatest benefactors of the medical profession of America.

Presentation of "Cicero de Senectute."—Dr. S. Weir Mitchell, of Philadelphia, then presented Dr. Osler with a translation of Cicero's immortal essay on old age. Dr. Mitchell said that the gift undoubtedly fulfilled one quality of the true gift, inasmuch as it was something that the givers would like to keep themselves. As to the appropriateness of it there could be no doubt, and indeed applause of the guests showed already that they realized its aptness to the occasion. One reason of this appropriateness is that Cicero must be regarded as an anticipatory plagiarist, since he had said in a

famous passage of this essay, "It is very desirable for man to expire at the right time." As Cicero was probably about sixty years of age when he wrote this essay, he did not state as definitely as the newspapers claim the guest of the evening to have stated just what was the right time for a man to expire. As to his own selection as the presenter of the gift, Dr. Mitchell said that he was the youngest man present, and was therefore naturally chosen to make the presentation, to the most venerable member of the American medical profession. It concerned a subject which the ladies never attained, and the translation had been made by James Logan, the friend and adviser of William Penn. The printing of this copy had been done by Benjamin Franklin, and it bears the date 1744. Franklin said very appropriately in the preface that as it was only old men who would be apt to read an essay on old age, therefore the type selected had been especially large, in order that no straining of the eyes might remind them of how much the departing years were taking away from them. This was a story told by the kindly old pagan philosopher of the declining years, the declining years in the sense perhaps that one is compelled to decline all the good things and yet find many subjects for consolation in the years as they go.

With a fervent "God bless you!" Dr. Mitchell made the presentation, and wished that Dr. Osler should find in the years as they passed only the renewal of the satisfaction that had been his in the friends and the influence for good of other days.

Dr. Tyson, in introducing Dr. Osler for the response to the toast, said that usually occasions like this and eulogies such as Dr. Osler had listened to came to old men, and therefore had their element of sadness, inasmuch as they represented the farewell to the work of a lifetime. It is not the end of a career, however, that is celebrated to-night, but the entrance upon a new sphere of activity, and it is not good-by that is said, but a cordial Auf wiedersehen, for it cannot be said that the medical profession of America shall not have the benefit of Osler's presence and of his genial oratory many times in the years to come.

Osler's Response.—Dr. Osler said that he could not but feel that the happiness which came to him in the midst of all these manifestations of friendship was undeserved. He felt that he had been singularly blessed in the friends that he had made. He would yield to no man who claimed to have more or better friends than he had, and for this he can only say, "God be praised!" If success consists in getting what one wants, and being satisfied with it, then, indeed, success has been his, since friends so precious have come to him. Always, however, there has been the feeling of lack of desert of the privileges that have come. When the invitation to present himself as a candidate to the position of clinical medicine at Philadelphia reached him at Leipzig, Dr. Osler was inclined to think that it must be a joke. He was not sure with regard to it until two weeks later a cablegram reached him to meet Dr. Weir Mitchell in London. Boston measures men by brains, it is said New York by bawbees, and Philadelphia by breeding. It was Mitchell's task to test his breeding. He did so by having him eat cherry pies and noting how he disposed of the stones. As Osler disposed of them discreetly, the breeding question was settled. Friends had spoken during the evening of his influence on Philadelphia. What he felt as one of the most precious things in his life was the influence of Philadelphians on him who have been the colleagues of such great men as Pepper and Leidy and Agnew and Ashurst, was of itself a liberal education

in medicine, a suggestive influence in medical education and in teaching, whose power could not be exaggerated.

At Johns Hopkins there had come the opportunity to do for America what had been so well done in Germany, to make a great teaching clinic. If he has accomplished anything Dr. Osler feels it is by the introduction of Teutonic methods into American medical education. He cannot but feel supremely thankful then for the opportunity for this that was presented at Johns Hopkins.

American Hospital Opportunities.—Dr. Osler said that even on an occasion like this he felt that he must say a word with regard to the hospital opportunities that are being wasted in America. In every town of 50,000 inhabitants in this country, there could be a good medical clinic from which would be issuing regularly distinct contributions to medical progress. For this, however, there must be a change in hospital equipment and methods of appointment. If a few men guided the destinies of hospitals instead of many, and if they were not too often the bone of political contention, then much might be accomplished that now failed. There would have to be properly paid assistants who would remain as resident physicians at the hospital, not for a year or two, but for many years. If this were done, then America would accomplish more for clinical medicine in five years than Germany could do in ten.

Dr. Osler himself has cherished three personal ideas: Do the day's work well, to act up to the Golden Rule and to cultivate equanimity. To do the day's work well may seem too practical to be an ideal, but it is an ideal. To let the future take care of itself, and to do the thing in hand as well as possible represents the only hope for the successful accomplishment of good work. The Golden Rule is an ideal only if it is applied not alone to the professional brethren, but also to patients and to all those with whom one comes in contact. As for equanimity it is the only thing that insures anything like happiness in life. Equanimity that enables a man to take success with humility, to enjoy even his friends with humility, and to suffer sorrow and trial without being cast down.

Dr. Osler feels that he has made mistakes, that they have been of the head and not of the heart. He has loved no darkness, he has sophisticated no truth. He has allowed no fear to paralyze his efforts. He leaves his friends with sorrow and yet with feelings of profoundest joy over their manifestations of kindness to him and his, and he feels that the bonds, though loosened, are not severed.

SOCIETY PROCEEDINGS.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, held February 8, 1905.

The President, Harlow Brooks, M.D., in the Chair.

Typhoid Abscess of the Thyroid Gland; A Case Resembling Chorionic Epithelioma.—Dr. Richard Weil presented a case of typhoid abscess of the thyroid gland which he considered of interest not only because of its rarity, but also because it illustrated certain biological peculiarities of the typhoid bacillus. The patient had had a fistula on the right side of the neck for four years with constant discharge. He had been treated at various hospitals with injections and scraping without success. Dr. Kämmerer finally decided to make a complete excision. The fistula ran for a considerable distance to the thyroid gland. At the operation one

lobe of the thyroid was removed. In this was situated an abscess cavity about the size of a walnut. The walls were calcific, and contained some thin, purulent fluid. From this fluid a pure culture of the typhoid bacillus was recovered. Upon inquiry the patient admitted that the swelling of his thyroid had begun to develop shortly after an attack of typhoid fever four years before. The patient had also when young suffered from goiter, as nearly all such patients have. In the literature Dr. Weil had found ten cases of thyroid abscess after typhoid fever. Of course three were closed and contained typhoid bacilli in pure culture. There was only one case in the literature in which after a long lapse of time an open abscess cavity contained the typhoid bacillus in pure culture. In this case, reported by Parsons in the Johns Hopkins Reports, the bacilli were isolated from the costal abscess after a fistula had been present for three months. Although morphologically and culturally the organisms present in Dr. Weil's case corresponded to the stock cultures they did not respond to the agglutination test. Whereas the stock cultures reacted to typhoid serum in 1-50, this bacillus reacted only feebly at 1-20. The serum of the patient was examined and was found to have an extremely high agglutinating power, but this also failed to agglutinate the bacteria above 1-20. It seemed possible that this bacillus belonged to the "Eberthiforme" type of *Sacquepée*. To prove this the bacillus was injected into rabbits in the effort to produce an immune typhoid serum and so confirm the diagnosis. After cultures had been transplanted through eight bouillon tubes, the bacillus gained in agglutinating power up to 1-25. It never equalled the stock cultures but still gave what could be called a specific reaction. The immunization experiments were therefore discontinued as unnecessary.

Dr. Weil also showed a case resembling chorionic epithelioma. This was not a true case of chorionic epithelioma but it had given rise to so much confusion in diagnosis that he thought it well to present it. He said that there was of course no difficulty in recognizing certain cases of chorionic epithelioma; that is, cases in which shortly after abortion or delivery a tumor was found in the uterus. There were, however, a series of cases about which a good deal of discussion had arisen as to diagnosis;—Those in which after a variable period after abortion or delivery, ranging from months to years, these so-called chorionic epithelioma have been found not in the uterus but in distant organs: those in which these tumors had been found in virgins, as in the case of Lubarsch; and, finally, those occurring in men, angioplasmic sarcoma or teratoma of the testicle, which have been described as chorionic epitheliomata. There are also cases such as that reported by Marx, in which tumors were found in the liver, which were similar to these hemorrhagic tumors, but occurred in a man who presented no tumors of the testicle. Marx placed such tumors with the endotheliomata. The case presented by Dr. Weil occurred in a woman of twenty-nine years of age. She entered the hospital practically moribund. Her husband declared that she had not recently been pregnant. At autopsy the uterus and adnexa were found to be perfectly normal. In the stomach there was found a tumor about the size of a naval orange situated near the pylorus, but not causing obstruction, yellowish red in color, and slightly ulcerated. In addition to this there were tumors in the liver. The liver was found to be studded with large hemorrhagic masses which were reddish brown in color and varied in size from a pea to an orange. There were fairly sharply circumscribed and looked exactly like the metastases of chorionic epithelioma. The other organs were

entirely free from invasions. Microscopical examination showed that this was a case of primary tumor of the stomach, with metastases in the liver. The muscularis and submucosa contained small nodules composed of adenomatous strands of cylindrical cells. These lay in a cellular stroma composed of epithelioid cells. The stomach tumor might, without doubt, be classed as an adenocarcinoma, somewhat atypical in the fact that the adenomatous structure had been to a certain extent replaced by a diffuse proliferation of epithelioid cells. These nodules, even in the stomach, showed hemorrhagic areas. There was also invasion of the blood vessels in the wall of the stomach by tumor masses. The tumors in the liver were intensely hemorrhagic, and it was difficult to unravel their histology. As the periphery of the masses of clotted blood which formed the center of these metastases, one could see collections of large, lightly staining, epithelioid cells resembling closely those observed in the primary tumor. No adenomatous structures could be discovered. Microscopically, therefore, the tumor bore certain resemblances to chorio-epithelioma. The presence of syncytium in the tumor was to be excluded, although closely simulated by degenerating cords of liver cells which were to be found amid the tumor masses and in which the cell boundaries were quite wiped out. The only case in the literature to which comparison could be made was that of Marx, in which syncytium (of doubtful authenticity) was also found in the tumors in the liver. His case would also have been diagnosed as chorionic epithelioma had it not occurred in a man in whom there was no teratoma of the testicle. It is, therefore, quite evident that this type of tumor may be closely simulated by other tumors of very different origin, if they are hemorrhagic and contain large epithelial cells. The presence of pseudo-syncytium especially in the liver, is frequently an additional source of error. But even true syncytium is not characteristic, as was thought by Marchand, of fetal tissues, but may occur in any carcinoma or endo-epithelioma. On this basis, Sternberg presented a teratoma of the testicle containing syncytium at the last meeting (1904) of the German Pathological Society, but refused to regard it as chorio-epitheliomatous tissue. The actual character of all those tumors hitherto grouped in this class but not occurring in undoubted consequence of a pregnancy must, therefore, be carefully reconsidered; the diagnosis is no longer so simple as was once believed.

Agglutination Characteristics.—Dr. W. H. Park, in the discussion, said that he had been interested in the report of the agglutination characteristics of typhoid bacilli which had been living in the body for so long as four years. The low agglutinability on isolation with later recovery after transplantation reminded one of bacilli grown in fresh unheated serum. At the laboratory of the Health Department, Dr. Collins had diminished the height of the agglutinating reaction of bacilli, ninety-five per cent. by growing them for twelve periods of twenty-four hours each in serum. When grown again on nutrient agar they recovered their agglutination characteristics much more slowly than did Dr. Weil's cultures.

Dr. C. W. Field said, in regard to syncytium in tumors, that he had showed some time before a primary endothelioma of the peritoneum in a man. In that tumor there was a large amount of syncytium and only the peritoneum was involved. No other organs were involved.

Chorionic Epithelioma.—Dr. Harlow Brooks said that he had recently examined material from a woman who declared that she was a virgin, in which the growth

was undoubtedly chorionic epithelioma. Some had been inclined to look upon it as one of the growths occurring without impregnation. On examination he had been assured that it was from the remains of placental tissue that the growth originated. Personally, however, he did not believe that one was justified in saying that all these tumors came from either maternal or fetal tissue.

Hemorrhagic Metastatic Tumors.—Dr. Weil said that he did not quite understand why an ordinary carcinoma should in this case give rise to intensely hemorrhagic metastatic tumors. It was easy to understand the formation of such tumors in the endo- and peritheliomata, which were essentially vascular tumors. By way of explanation, he suggested that in this case the metastases travelled by way of the portal system, and not by the lymphatics, from the stomach to the liver. Sections of the stomach revealed tumor invasion of the blood vessels.

An Epidemic Disease of Trout.—Dr. Cyrus W. Field described an epidemic disease of trout occurring in the preserves of the South Side Sportsmen's Club, on Long Island. This broke out in the latter part of October and was first noticed in the early part of November as being very extensive. Dr. Field showed a plan of the preserves. The water passed down from the brook and entering the first preserve bubbled up and became well aerated. On going into the lower preserves it passed through screens and so was not aerated. The disease first broke out in the tanks to one side. No fish in the first preserve and very few of the young fish were affected. Very few fish in the lower brook died of the disease and these had probably been thrown there by the keeper. From the middle of October to November 10, 5,400 fishes died. From that time to the first of December, 2,100 fishes died. In the early part of November the fish were all turned out into the lower brook. The death rate then dropped to 1,600 for December, and 1,000 for January. For the first week in February it was about normal. The gills of the diseased fish were found to be pure white instead of being a healthy red. In the normal gills large quantities of nucleated red blood cells could be found, but there were none in the diseased gill. On autopsy the only pathological condition present was in the liver which was markedly enlarged, very friable, and yellow instead of being brownish red in color. Microscopical examination of the livers of the fishes showed intense fatty degeneration and large areas of necrosis. In the fish the liver is the great hemopoietic organ of the body; the spleen takes very little part, if any. All the other organs were absolutely normal. The ventral artery which in the healthy fish was very large and red, in the diseased fish was simply a gray, slaty line, and when smears were made was found to contain slaty detritus. Dr. Hodenpyl had gone to the club and had had four healthy and four diseased fishes placed in a small tank together. These fish were fed for two weeks on fish dead of the disease. One of the diseased fish died. The four healthy fish, when taken out, were found to be normal. The remaining three fish showed a pink tint to the gills. Two weeks later the diseased fish could not be distinguished from the healthy ones. Dr. Field had had thirty diseased fish put in one preserve and thirty normal fish in the next preserve. Of the diseased thirty, four or five died. After two weeks only three showed white gills, while none of the normal fish had become diseased. An interesting point was that the disease in these preserves spread against the current, not with it. The fish in the lower brook were not affected, and the diseased fish which were turned out

into the brook got well. On Dr. Field's first visit about fifty fish were netted from the brook and among these were only two healthy fish. Two months later fifty more were netted and there was not one diseased fish among them though a few had pale gills. This epidemic occurred at a time when the preserves held three times as many fish as ever before, and when the water supply had been cut down one-half. At the same time a number of fish which had died of ulcers came down from the upper brook. This, however, had nothing to do with the anemia in the preserves. Cultures were taken from the fish and studied at various temperatures. No bacteria were found except from the ulcerated fish, which showed large quantities of a very slender bacillus. A number of rainbow trout, which are a very hardy trout, were in the preserve and none of these were affected. The disease seemed therefore not to be of an infectious nature, but one which was probably due to lack of oxygen in the water. Dr. Field thought this interesting in connection with human anemias.

Mr. Slade, the president of the club, in the discussion, said that when the disease first came to his notice he naturally assumed that it was due to the food, but on investigation he found that the fishes had been regularly fed on pig's liver as they had been for two years. He had thought it possible that some disease of the pigs might have caused the epidemic but the doctors were agreed that the food had nothing to do with it.

Anemia Due to Lack of Oxygen.—Dr. Harlow Brooks said that he had looked over the sections with a great deal of interest and he considered that Dr. Field was right in saying that the only lesions present were such as might occur from extreme anemia. This anemia was interesting as not having been due to filthy conditions, but simply to a lack of oxygen although the amount of food had been plentiful. He had, while fishing, often seen fish in shallow, land-locked pools whose gills were white. Later on these fish were very apt to become infected and covered with whitish parasitic scales. They however first showed the signs of anemia.

New Instrument for the Determination of the Coagulation Time of Blood.—Mr. L. B. Goldhorn demonstrated this instrument, which was devised by Dr. Biffi, of Lima, Peru. The instrument was exceedingly simple and seemed to be very efficient. It consisted of a glass cylinder and a perforated cork containing a thermometer with the reading above the vessel, and, secondly, of a glass rod or tube in which was fused a platinum wire, bent in such fashion as to have a number of loops which were even in diameter. To use the instrument the jar was filled to the black mark with water. The finger was punctured, note being taken of the time. The loops were touched to the surface of the extruding drop, care being taken that simply the periphery of the drop was touched. The reading of the thermometer was taken. The tube was replaced and after five minutes the rod was pushed down and the first loop introduced into the water. If no fibrin formation had taken place the blood dissolved completely and the loop became perfectly clear. After another lapse the second loop was pushed into the water, etc. When fibrin formation started it could be seen immediately that there remained a slightly tinged remnant of coloring matter in the loop. When coagulation was complete the loop showed a solid red mass. The instrument was so simple that any one could make it. The coagulation time depended in the first place upon the temperature of the air and of the water, and on the size of the loop. It would be desirable to have a thermometer which would take a reading of the water

so as to obviate temperature changes in the vessel. Dr. Biffi had suggested that the loop be a single twist in the wire. Mr. Goldhorn had found, however, that this was not permanent and not very desirable because by capillarity the blood went to the point where the two wires crossed and this caused a slight difference in the coagulation time. Mr. Goldhorn made his loops more permanent by giving an extra twist so as to have the loop unalterably fixed on a little stalk. To clean the instrument it was only necessary to take out the platinum wire, hold it in a flame, and, if necessary, cleanse it with acid. The size of the loop had considerable to do with the coagulation time. The smaller the loop the more rapid the reading obtained, but there was also a greater error because it was much more difficult to get a uniform amount of blood in a series of small loops than in a series of large ones. The instrument should be a very useful one and should be put on the market. Mr. Goldhorn said that the instrument had already shown him many things. He had recently seen a case which had been pronounced undoubted hemophilia. The coagulation time would be supposed to be very much diminished but as a matter of fact by this instrument the time was very much increased. It had also shown him that there was no relationship between the coagulability or fibrin formation and the blood plates.

Dr. J. H. Borden, in the discussion, asked Mr. Goldhorn whether he had tried to find the limits of coagulation time by this instrument and whether he had made any tests to determine how it corresponded with other methods.

Mr. Goldhorn said that Dr. Biffi had found that the instrument as made by him corresponded in time with other methods. It all depended upon the temperature and the size of the loop. Dr. Biffi had suggested that the loops be 3 to 4 mm. in diameter and 1 cm. apart, and he then found that at a temperature of from 20° to 25° C., coagulation was complete in from seven to ten minutes in a normal subject. With the instrument as shown it took about twice as much time, but this was necessarily more accurate on account of the larger size of the loops.

Work Done with the Colon Bacillus.—Dr. W. H. Park gave a short report of work done under his general direction by Mrs. G. Van Everen Stoughton, with the colon bacillus. The work was undertaken to see to what degree members of the colon group taken from a great number of cases, normal and diseased, were alike in their agglutination characteristics and their fermentation of sugars. Mrs. Stoughton had tested fourteen cultures from different persons by injecting them into rabbits. Some animals received three organisms, some seven, and others only one. It was found that organisms derived from different cases but apparently the same, reacted very differently with the same serum. With the sera obtained tests were made of various cultures. Only a few cultures of those which had not been injected into the special animal whose serum was being tested agglutinated even slightly. This did not harmonize with the belief that most cultures of *Bacillus coli* react to some of the different specific agglutinins for the colon bacillus. For instance, Rabbit I was injected with cultures of cases 1, 7 and 12. The other eleven of the fourteen cultures did not react even 1-20 with this serum. Rabbit II was injected with 3, 4 and 10. Culture 3 reacted 1-200; 4 and 10, 1-500. Strains 1 and 2 gave a fair reaction at 1-20. The other nine gave no reaction in 1-20. Rabbit III was injected with 2, 8 and 13. Culture 2 reacted 1-300; 8, 1-500; and 13, 1-200. Strains 1 and 7 gave a fair

reaction in 1-20. The other strains gave no reaction or only a slight one. Thus with fourteen organisms, probably rather more distinct than usual, not one gave rise to any appreciable specific agglutinins for the others. Large numbers of colon bacilli—44 from different cases and 50 consecutive colonies from one plate—were taken and tested on different sugars. With the ordinary tests with dextrose, indol, etc., these all reacted alike except for the amount of gas produced. When saccharose was tried it was found that one-third did not ferment saccharose with the formation of gas. Of those that did, a portion caused no increase of acid in the sugar broth. In the bacilli from different cases there was a very marked difference in the amount of gas, from 15 to 90 per cent. being produced in the fermentation tubes. The whole work went to show the enormous number of varieties of bacilli which are included in the colon group.

Dr. E. Libman, in the discussion, said that he had been interested for some time in the question of agglutination of the members of the colon group. He had found a great deal of difficulty in establishing definite relationships in the colon group. Often groups which culturally were identical would not agglutinate at all similarly. He thought that in future experiments with members of the colon group derived from the intestinal tract, it would be wise to test the agglutination after they had been withdrawn from an animal upon which they had exerted some pathological effect. While the bacillus might then be agglutinated to a certain extent, that reaction might be entirely lost in a few days. He had seen an example of this when working with a paratyphoid bacillus. The organism had first been isolated from the gall-bladder and the serum gave a thread reaction with this bacillus. It was next isolated from the blood and the serum then gave a thread reaction with the organism from the blood but only an agglutination with the organism from the gall-bladder. Two days before death it was again isolated from the blood, and the serum then gave a thread reaction with this last, an agglutination with the first organism isolated from the blood, and no reaction at all with the organism from the gall-bladder. He thought therefore that it would be advisable to test the organisms directly after they had been passed through an animal.

Dr. Park said that Dr. Libman's remarks and the results which all get in their work with these organisms showed how much these bacteria vary from time to time. Most of the agglutination tests in laboratories had been done with stock cultures growing on artificial media. He thought it was easy to realize that a bacillus passing from the gall-bladder to the blood might change rapidly in its specific properties as it developed. Bacilli taken on successive days might present entirely different characteristics. The bacilli as they increased in the body fluids would vary greatly in their offsprings, since those least susceptible to the bactericidal substances of the blood would be the ones which developed.

Further Research in Cultures and Subcultures.—Dr. Leo Buerger demonstrated a few plates showing the growth of the *Streptococcus mucosus capsulatus* and certain pneumococci, in symbiosis. Some days before some places which had been made from the mouth secretion of a normal case were found to be studded by numerous colonies of the *Streptococcus mucosus*. These colonies varied in size from two to three mm. in diameter. Subcultures were made, the organism identified, and the plates were allowed to stand at room temperature. Three days later it was noted that other colonies had appeared. These were very large, five

and even six mm. in diameter, of a mucoid appearance, resembling to some extent the colonies of very luxuriously growing Friedländer bacilli. Some of them were discrete, while others had increased so rapidly in size that they formed large confluent masses of slimy surface growth. The discrepancy in size between these colonies and those ordinarily found in the case of the *Streptococcus mucosus* seemed to indicate different organisms. Subcultures, however, showed conclusively that the organisms were identical. Re-examination of the plates showed that whereas the old colonies presented no dense center, all the large colonies presented a more opaque, whitish center. Portions of these denser and more opaque centers were studied and were found to be composed of Gram negative bacilli. Experiments which were made showed conclusively that the presence of these bacilli was instrumental in causing the luxuriant growth described. The bacillus was rather large, non-motile, Gram negative, and tended to assume the diplo-bacilloid form. In recent cultures the double forms prevailed and the elements were comparatively short. In other growths, more of the longer single forms were to be seen and the tendency to involution was very great. It grew poorly on acid media unless they contained glucose (other sugars had not been tried) or serum or broth. The neutral titer seemed to be most favorable for development. The best growths were obtained on glucose serum agar or glucose serum broth. Fairly large doses had not proved pathogenic for either mice or guinea-pigs. The organisms had been identified. Plates of glucose serum agar were streaked with the *Streptococcus mucosus* isolated from the above mentioned case, and another similar organism derived from another source. After twenty-four hours incubation small quantities of cultures of the bacillus were admixed, care being taken to avoid spreading the colonies over sterile portions of the plate. In twenty-four hours the streptococcus growth had almost doubled its size on the plate, whereas the growth of the bacillus occupied but a very small portion of the total mass. The increase in size of the former took place fairly rapidly even at room temperature whereas under ordinary conditions its growth without incubation is poor. The consistency of the colonies also became altered; they were more mucoid and stringy so that it was difficult to remove portions for examination. When the streptococcus was planted on a colony of the bacillus the effect was not so marked. Two strains of the pneumococcus were also experimented with. When grown in symbiosis with the bacillus they also produced large mucoid colonies of considerable dimensions. The viscosity of the surface growth was greatly increased. The case from which these organisms were isolated was kept under observation for two weeks, during which time three strains of the bacillus and four of the *Streptococcus mucosus* were isolated on four different days. Perhaps the persistence of the streptococcus in the throat of this normal individual was influenced to some extent by the presence of the bacillus.

A Complex Case of Multiple Cysts of the Liver.—Dr. Harlow Brooks demonstrated a complex case of cysts of the liver, showing it in connection with the previous cases shown by Drs. Moschowitz and Weil. This case admitted of almost any explanation of the nature of the cysts. The history of the case was unimportant except that the man was a degenerate, mentally, morally and physically. He was also probably syphilitic. The chief anatomical findings were: Hyperplastic pneumonia with gangrenous ulcerated and papillomatous enteritis, with double inguinal hernia and beginning intestinal cancer; interstitial nephritis with cysts of the

kidney; necrosis of the testicles and acute cystitis; chronic meningitis with a very primitive development of the brain cortex; and multiple cysts of the liver. The brain was very interesting; in its cortical development it had not risen even as high as the type of the chimpanzee or orang. Mentally the man was at about this level. There was no clinical history nor sign of hepatic disease. When the liver was removed the duct of the gall-bladder was found freely open. It contained about the ordinary amount of bile. The entire substance of the liver was mottled with small greenish-walled cysts, but they contained perfectly clear mucoid fluid, not bile stained. The cysts varied in size from 1 mm. to 1 or 2 cm. They were as a rule in the interlobular spaces, but some were in the centers of the lobules. This might be explained by the fact that some showed well-marked diverticula. Dr. Brooks thought this might be considered as a congenital cystic condition. This was borne out by the fact that the man was a congenital degenerate in many ways. Dr. Prudden had called attention to the fact that if one congenital lesion were present others would also usually be found. On the other hand, it might be looked upon as an adenocarcinomatous growth. The case presented a great many points which admitted of discussion.

The Question of Adenoma.—Dr. R. Weil, in the discussion, said that the question of adenoma, which always came up in such cases, was very puzzling. It seemed to him that there were a great many things against such a theory. It was rather curious that this condition almost invariably occurred in association with other congenital lesions. The fact that practically the entire liver was uniformly permeated by the change was another argument against adenoma. There was, further, no active proliferation of the so-called tumor tissue. Dr. Weil considered it to be an anomalous congenital condition of the epithelium throughout the entire organ. In the bile ducts there was a condition resembling adenoma, but when one considered the entire organ and the fact that this occurred with other congenital lesions, Dr. Weil did not see what ground there was for the theory of adenoma. There was the additional factor of adenomatous tumors at the bases of the ulcers, but one would hardly be inclined to regard these small isolated cysts as metastases. Their formation owing to occlusion of the bile ducts hardly entered into this particular case because there was no cirrhosis.

Dr. E. Moschcowitz thought that the assumption of a congenital origin did not entirely explain the microscopical lesions. He thought that in addition another factor played an important part in the pathogenesis.

Dr. Brooks said that he wished to confirm Dr. Weil's statement that there was no cirrhosis present, so that one could strike out inflammatory growths of the bile ducts.

BOOK REVIEWS.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. For the use of students and practitioners. By JAMES NEVINS HYDE, A.M., M.D., and FRANK HUGH MONTGOMERY, M.D. Seventh Revised Edition. Lea Brothers & Company, New York and Philadelphia.

We do not know that we can add anything to the full meed of praise already accorded this volume in our reviews of former editions.

It is by all odds to our view the most practically valuable text-book on its speciality with which we are

acquainted, and in its new dress is all the more valuable, since much new matter of recent developments is included. From the illustrative standpoint the beauty of the book has been vastly enhanced by a thorough going over of the old plates and a substitution of newer and better ones.

The new chapters on the X-rays in the treatment of the affections of the skin are timely and withal safe and conservative estimates of the value of this as yet comparatively new therapeutic aid. No dermatologist can afford to overlook this new edition and the general practitioner cannot fail to be much profited in his work with affections of the skin by such a trustworthy guide.

THE ART OF CROSS-EXAMINATION. By FRANCIS L. WELLMAN, Esq. The Macmillan Company, New York and London.

MR. WELLMAN has included in this volume a new and enlarged edition of his popular work of 1903, some very lucid and telling discussions of what might be termed the technic of cross-examination, together with a most diverting collection of incidents illustrating his points of several extensive examples of famous cross-examinations from notable trials. Anyone can find entertainment in its pages, and anyone called upon to figure either as the cross-examiner or as the cross-examinee may glean instruction as well. Physicians especially who are so frequently called upon to testify in damage cases might read this work with profit, if only to avoid some of the pitfalls dug for the unwary. It must be admitted, however, that in the instances cited the medical men in question seem to have deserved the discomfiture which they were obliged to undergo.

PROGRESSIVE MEDICINE. Volume IV., December, 1904. Volume I, March, 1905. Edited by HOBART AMORY HARE, M.D., assisted by H. R. M. LANDIS, M.D. Lea Brothers & Company, New York and Philadelphia.

SOME sort of periodical digest of the advances, discoveries and improvements in the medical and surgical sciences is an essential addition to the library of every practitioner who would keep in touch with the onward march of his profession, and these two latest volumes of the Progressive Medicine Series, published by Lea Brothers, continue to uphold its reputation as the best of the quarterlies to serve this end. The December volume includes diseases of the digestive tract, genitourinary diseases, surgery of the extremities, diseases of the kidneys and an extensive chapter on therapeutics, by Dr. Landis. The March issue is devoted to surgery of head, neck and chest; infectious diseases, including acute rheumatism, croupous pneumonia and influenza; diseases of children; laryngology and rhinology; otology.

BOOKS RECEIVED.

MEDICAL PHILOLOGY. By Dr. L. M. Griffiths. Part I, A to AE. 12mo, 100 pages. J. W. Arrowsmith, Bristol.

SURGERY OF THE DISEASES OF THE APPENDIX VERMIFORM AND THEIR COMPLICATIONS. By Drs. W. H. Battle and E. M. Corner. 8vo, 208 pages. Illustrated. W. T. Keener & Co., Chicago.

ATLAS AND EPITOME OF GENERAL PATHOLOGIC HISTOLOGY. By Drs. H. Durck and Hektoen. 12mo, 371 pages. Illustrated. W. B. Saunders & Co., Philadelphia, New York and London.

ESSENTIALS OF MATERIA MEDICA AND THERAPEUTICS. By Dr. H. Morris. Edited by Dr. W. A. Bastedo. Sixth Edition. 12mo, 294 pages. W. B. Saunders & Co., New York, Philadelphia and London.